Service Manual

PIONEER
The Art of Entertainment

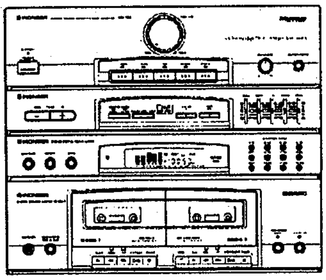

Illustration shows model RX-590

ORDER NO.
RRV1479

STEREO DOUBLE CASSETTE DECK RECEIVER

RX-590
RX-590S
RX-390

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Type	Model			Power Requirement	Remarks
	RX-590	RX-590S	RX-390		
KUXJ	○	—	○	AC120V	
KCXJ	—	○	○	AC120V	

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(CU-AV011) (RX-590S ONLY)

PIONEER ELECTRONIC CORPORATION 4-1, Meguro 1-Chome, Meguro-ku, Tokyo 153, Japan
PIONEER ELECTRONICS SERVICE, INC. P.O. Box 1760, Long Beach, CA 90801-1760, U.S.A.
PIONEER ELECTRONIC (EUROPE) N.V. Haven 1087, Keetberglaan 1, 9120 Melsele, Belgium
PIONEER ELECTRONICS ASIACENTRE PTE. LTD. 501 Orchard Road, #10-00 Lane Crawford Place, Singapore 0923

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1. SAFETY INFORMATION

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.
Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING
Lead in solder used in this product is listed by the California Health and Welfare agency as a known reproductive toxicant which may cause birth defects or other reproductive harm (California Health & Safety Code, Section 25249.5).
When servicing or handling circuit boards and other components which contain lead in solder, avoid unprotected skin contact with the solder. Also, when soldering do not inhale any smoke or fumes produced.

NOTICE
(FOR CANADIAN MODEL ONLY)
Fuse symbols -▮▭- (fast operating fuse) and/or -▮▭⊠- (slow operating fuse) on PCB indicate that replacement parts must be of identical designation.

REMARQUE
(POUR MODÈLE CANADIEN SEULEMENT)
Les symboles de fusible -▮▭- (fusible de type rapide) et/ou -▮▭⊠- (fusible de type lent) sur CCI indiquent que les pièces de remplacement doivent avoir la même désignation.

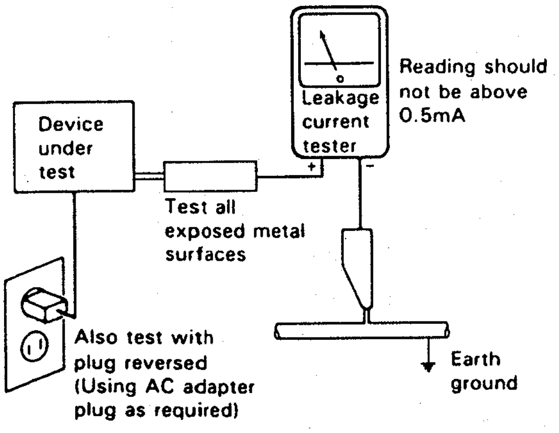
(FOR USA MODEL ONLY)

1. SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

LEAKAGE CURRENT CHECK

Measure leakage current to a known earth ground (water pipe, conduit, etc.) by connecting a leakage current tester such as Simpson Model 229-2 or equivalent between the earth ground and all exposed metal parts of the appliance (input/output terminals, screwheads, metal overlays, control shaft, etc.). Plug the AC line cord of the appliance directly into a 120V AC 60Hz outlet and turn the AC power switch on. Any current measured must not exceed 0.5mA.


Reading should not be above 0.5mA
Leakage current tester
Device under test
Test all exposed metal surfaces
Also test with plug reversed (Using AC adapter plug as required)
Earth ground

AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

2. PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in the appliance have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a ⚠ on the schematics and on the parts list in this Service Manual.
The use of a substitute replacement component which dose not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

2. SPECIFICATIONS

CASSETTE DECK RECEIVER

Amplifier Section

[RX-590/RX-590S]

[Front]

Continuous Average Power Output is 100 Watts* per channel, min., at 8 ohms from 70 Hertz to 20,000 Hertz, with no more than 0.9 % total harmonic distortion.**

4-Channel	
Front	70 W (1 kHz, 0.2 %, 8 Ω)
Center (RMS)	70 W (1 kHz, 1 %, 8 Ω)
Rear (RMS)	70 W (1 kHz, 1 %, 8 Ω)

[RX-390]

[Front]

Continuous Average Power Output is 100 Watts* per channel, min., at 8 ohms from 70 Hertz to 20,000 Hertz, with no more than 0.9 % total harmonic distortion.**

Input (Sensitivity/Impedance)	
PHONO (MM)	5 mV/1 kΩ
CD, VIDEO	400 mV/1 kΩ
Signal-to-Noise Ratio (IHF, short-circuited, A network)	
PHONO (MM)	60 dB
CD, VIDEO	70 dB
Graphic Equalizer Frequency Band	100 Hz, 330 Hz, 1 kHz, 3.3 kHz, 10 kHz, ±8 dB

* *Measured pursuant to the Federal Trade Commission's Trade Regulation rules on Power Output Claims for Amplifiers.*

** *Measured By Audio Spectrum Analyzer.*

FM Tuner Section

Frequency Range	87.5 MHz to 108 MHz
Usable Sensitivity	26 dBf, IHF (15 µV/75 Ω)
50 dB Quieting Sensitivity	Mono 33 dBf: (22 µV/75 Ω)
Signal-to-Noise Ratio (IHF, 85 dBf Input)	Mono: 60 dB
Stereo Separation	26 dB (1 kHz)
Antenna Input	75 Ω unbalanced

AM Tuner Section

Frequency Range	530 kHz to 1,700 kHz
Sensitivity (IHF, Loop antenna)	800 µV/m
Antenna	Loop Antenna

Cassette Tape Deck Section

Systems	4 track, 2-channel stereo
Heads	Recording/playback head x 1 Playback head x 1 Erasing head x 1
Wow and Flutter	0.3 % (WRMS)
Fast Winding Time	Approximately 105 seconds (C-60 tape)
Signal-to-Noise ratio	
Dolby NR OFF	40 dB
Noise Reduction Effect	
Dolby B type NR ON	More than 10 dB (at 5 kHz)

Miscellaneous

Power Requirements	AC 120 V, 60 Hz
Power Consumption	
RX-590/RX-590S	300 W, 400 VA
RX-390	220 W, 330 VA
AC Outlet Unswitched x 1	100 W (0.8 A) MAX
Dimensions	420 (W) x 351.5 (H) x 345 (D) mm 16-9/16 (W) x 13-13/16 (H) x 13-9/16 (D) in
Weight (without package)	
RX-590/RX-590S	11 kg (24 lb 4 oz)
RX-390	9.5 kg (20 lb 15 oz)

Accessories

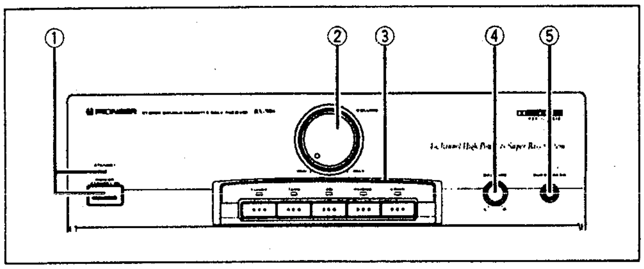
FM Antenna	1
AM Loop Antenna	1
Operating Instructions	1
Remote Control Unit	1
Dry Cell Batteries	2
RX-590S:	
Operating Instructions for the Remote Control	1
Warranty card	1

NOTE:

- *Specifications and design are subject to possible modifications without notice, due to improvements.*

3. PANEL FACILITIES

■ AMPLIFIER SECTION



① POWER (STANDBY/ON) switch and STANDBY indicator

This is the switch for electric power.

ON : When set to the ON position, power is supplied and the unit becomes operational.

STANDBY : When set to the STANDBY position, the main power flow is cut and the unit is no longer fully operational. A minute flow of power feeds the unit to maintain operation readiness.
When the STANDBY indicator is on, the unit is in STANDBY.

Disconnect the power cord from the power outlet when you do not plan to use the cassette deck receiver for a long period of time.

② VOLUME control

The volume is increased when this control is turned clockwise, decreased when turned counterclockwise.

③ FUNCTION buttons/indicator

The indicators light for the specified functions.

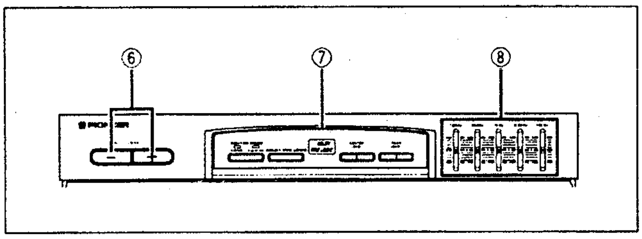
④ BALANCE control

Use this control to adjust the left—right balance for the front speakers.

⑤ SUPER BASS control button

Set to ON to emphasize bass sounds. The S.BASS of the tuner section display lights.

■ GRAPHIC EQUALIZER SECTION

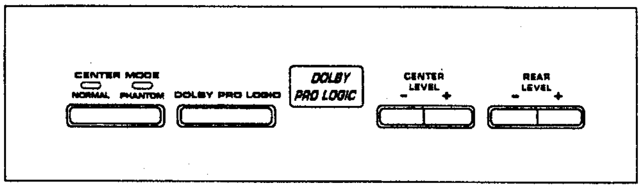


⑥ TUNING buttons (–, +)

These are used to locate stations. Push the "–" button to locate a station broadcasting on a lower frequency and the "+" button to locate a station on a higher frequency.

⑦ SURROUND function button(s)/indicator (RX-590/RX-590S only)

Surround play back is not possible with a monophonic sound source (no sound from rear speaker).



CENTER MODE button/indicator
This button selects the surround center mode.

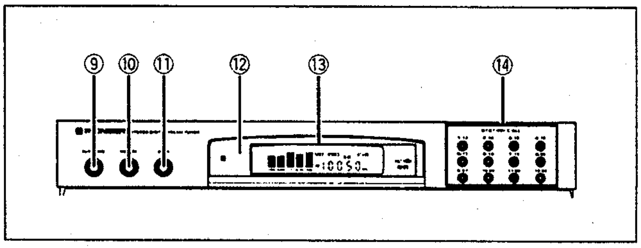
DOLBY PRO LOGIC surround button/indicator
Use this control to independently adjust the center volume balance.

CENTER LEVEL control
Use this control to independently adjust the center speaker system volume level for the optimum front-center volume balance.
The CENTER of the tuner section display lights.

REAR LEVEL control
Use this control to independently adjust the rear speaker system volume level for the optimum front-rear volume balance.
The REAR of the tuner section display lights.

⑧ GRAPHIC EQUALIZER controls

■ TUNER SECTION



⑨ AUTO/MONO button

Switches between AUTO and MONO each time it is pressed.

AUTO : Normally, leave in this mode for reception. When a stereo FM broadcast is received, it will be automatically reproduced in stereo.

MONO : It may not be possible to tune in a desired FM station because it is too far away or because its signals are too weak. In cases like these, press the button to set the reception to the monaural mode (MONO indicator lights) and tune in the station. The FM stereo broadcast will be heard in mono. This button will not function for AM reception. The MONO setting is memorized along with station frequency when presetting a station.

⑩ MEMORY button

This button is used to memorize stations. When the button is pressed, the frequency indication will flash. To memorize the frequency of any station, press one of the STATION CALL buttons while the frequency indication is flashing. After that, press the MEMORY button.

⑪ BAND selector button (FM/AM)

This is used to select the band of the desired station. The bands change alternately each time the button is pressed.

→ FM reception

AM reception ←

⑫ REMOTE SENSOR window

⑬ Display section

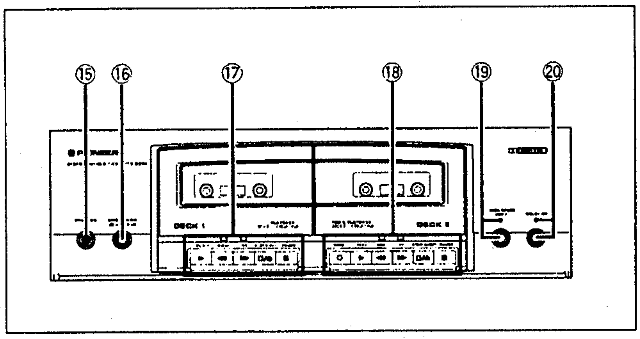
Shows the received broadcast frequency or station call number, reception conditions, and graphic equalizer level settings.

FM and MHz light : FM reception
AM and kHz light : AM reception
Channel display : Station call no. display
STEREO indicator : Lights when an FM stereo broadcast is received.
TUNED indicator : Lights when a broadcast is received and tuned in well.
Spectrum analyzer display : 5 band level display
MULTI-TOOM REMOTE indicator : Flashes when the signal is received.

⑭ STATION CALL buttons

These are used to preset stations and recall preset stations.

■ CASSETTE DECK SECTION



Use TYPE I (Normal) tapes.

⑮ PHONES jack

This is a "standard plug-type jack" for headphones.

NOTE:

Sound is not heard from the speakers when headphones are in use.

⑯ SPEAKERS button (■ A, ▬ A+B)

This is used to select the speaker through which you wish to listen.

■ A : When the speakers connected to A terminals are in use.
▬ A+B : When the speakers connected to A and B terminals are in use. (There is no sound at this position when speakers are connected only to the A terminals.)

Be sure to use A terminals when you are using one pair of speakers only. No sound will be heard through the speakers when only one pair of speakers are connected to B terminals.

⑰ DECK I buttons

► (PLAY) : Playback
◄◄ (REW) : Rewind
►► (FF) : Fast forward
■/▲ (STOP EJECT) : Stops tape travel. Ejects cassette if pressed when tape is stopped.
II (PAUSE) : Stops temporarily. The pause mode is canceled when the button is pressed again.

⑱ DECK II buttons

● (REC) : Set to the recording mode.
► (PLAY) : Playback
◄◄ (REW) : Rewind
►► (FF) : Fast forward
■/▲ (STOP EJECT) : Stops tape travel. Ejects cassette if pressed when tape is stopped.
II (PAUSE) : Stops temporarily. The pause mode is canceled when the button is pressed again.

⑲ HIGH SPEED COPY button/indicator

This is used for high speed copying.

NOTE:

When the HIGH SPEED COPY indicator lights (copy standby mode), the playback operation is not available for only DECK I or only DECK II, and the recording operation is available for DECK II only.

⑳ DOLBY* NR button/indicator

Press to activate the DOLBY NR system. Use to play back tapes recorded using Dolby B-type NR.

- Tapes recorded using Dolby B-type NR should always be played back with the noise reduction system on. Sound quality will be adversely affected if they are played back with the system off, or if tapes recorded using a different noise reduction system are played back with the Dolby B-type NR system on.
- It is recommended that tapes recorded using Dolby B-type NR be so marked on the label. This will help prevent incorrect setting of the noise reduction button during playback.

*

- *Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.*
- *"DOLBY" and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.*

■ REMOTE CONTROL UNIT (RX-590 AND RX-390)

[RX-590S, Canadian model only]
For details regarding use of the remote control unit, see the Operating Instructions booklet.

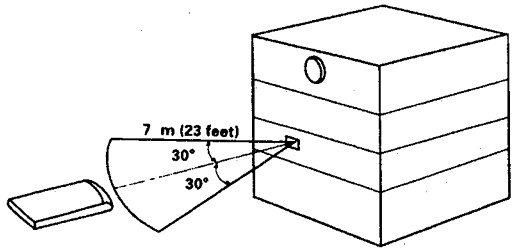
Range of remote control

When the remote control unit is pointed at the REMOTE SENSOR window on the deck receiver and any of its buttons is pressed, the cassette deck receiver and other components can be operated by remote control.

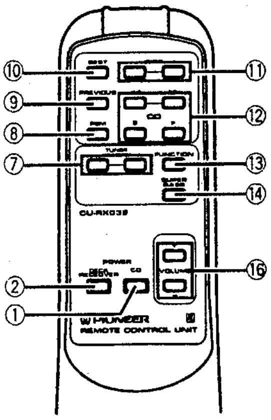
Distance : Within a range of approx. 7 meters (23 feet) from the REMOTE SENSOR window.

Angle : Within approx. 30 degrees from the center of the REMOTE SENSOR window.

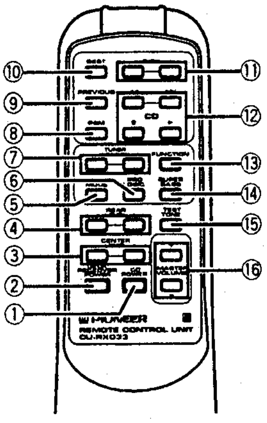
Remote control will not be possible if there is an obstacle between the remote control unit itself and the REMOTE SENSOR window. Performance of the remote control unit is adversely affected in the presence of strong fluorescent light. Keep such lights away, especially from the sensor window.



[RX-390]



[RX-590]



① CD POWER button

Switches CD player power ON/OFF.
Refer to the CD player's operating instructions in detail.

② DECK RECEIVER POWER button

When the power to this unit is ON, you can switch power ON and OFF (Standby) with the POWER button on the remote control.

③ CENTER LEVEL – (down), + (up) buttons (RX-590 only)

Use this control to independently adjust the center speaker system volume level for the optimum front-center volume balance.

④ REAR LEVEL – (down), + (up) button (RX-590 only)

Use this control to independently adjust the rear speaker system volume level for the optimum front-rear volume balance.

⑤ CENTER MODE button (RX-590 only)

Use this button to select between PHANTOM and NORMAL in order to set the correct surround center mode.

⑥ PRO LOGIC button (RX-590 only)

Use this button to switch the DOLBY PRO LOGIC SURROUND mode on and off.

⑦ TUNER STATION – (down), + (up) buttons

Before operation, memorize broadcast stations with the STATION CALL buttons.

+ .....Stations change in order in the upward direction.
– .....Stations change in order in the downward direction.

⑧ CD PGM (Program) button

Use this button to perform program play on a CD player only.
Refer to the CD player's operating instructions in detail.

⑨ PREVIOUS button

Use this button with a file-type CD player.
When the PREVIOUS button is pressed during playback, the discs are scanned in reverse order starting from the last disc played.
It can memorize up to 25 discs.

⑩ BEST button

Use to select a disc with a file-type CD player.
A simple way to store your favorite tracks in memory for future playback is to press the BEST button during playback of the tracks. Up to 25 tracks can be stored in the "best memory."

⑪ DISC (–, +) button

Use this button for disc selection on a multi-play CD player.
Refer to the CD player's operating instructions in detail.

⑫ CD operation buttons

■ : Stop
► : Playback
◄◄,►► : Track search
Refer to the CD player's operating instructions in detail.

⑬ FUNCTION selector button

⑭ SUPER BASS button

Use to switch the SUPER BASS function ON/OFF (for emphasized bass sound).

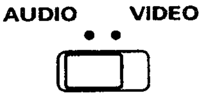
⑮ TEST TONE button (RX-590 only)

When the unit is in surround mode and the test tone button is pressed ON, a test tone sound will be output from each speaker in turn. Use this function to assist you when adjusting your equipment controls so that the volume from all channels is equal.

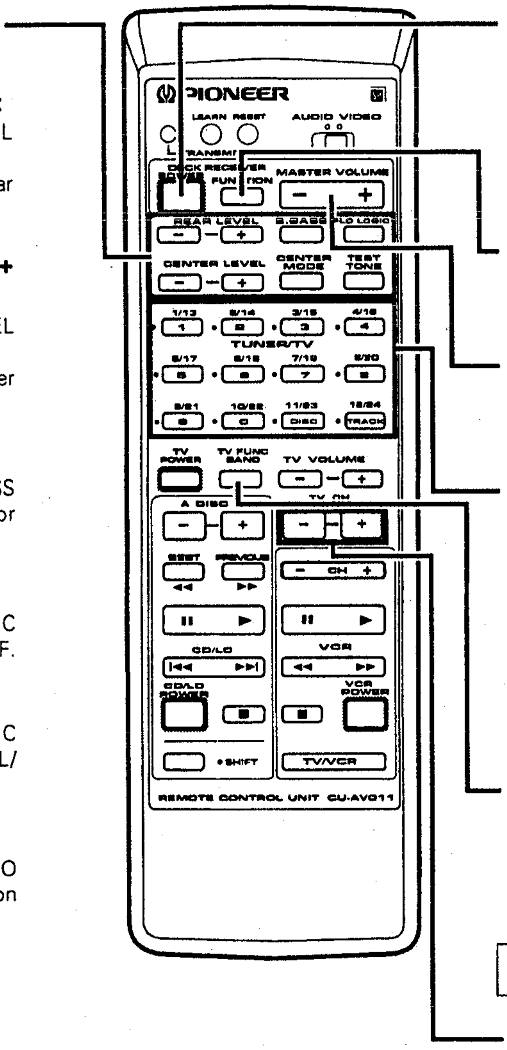
⑯ MASTER VOLUME – (down), + (up) buttons

Increases/decreases the sound volume of the unit.

■ REMOTE CONTROL UNIT (RX-590S)


AUDIO
VIDEO

Set the AUDIO/VIDEO switch to AUDIO.


PIONEER
LEARN RESET
AUDIO VIDEO
TRANSMIT
DECK RECEIVER POWER
FUNCTION
MASTER VOLUME
REAR LEVEL
S.BASS
PRO LOGIC
CENTER LEVEL
CENTER MODE
TEST TONE
1/13 2/14 3/15 4/16
TUNER/TV
5/17 6/18 7/19 8/20
9/21 10/22 11/23 12/24
DISC
TRACK
TV POWER
TV FUNC BAND
TV VOLUME
A DISC
TV CH
BEST
PREVIOUS
CH
CD/LD
VCR
CD/LD POWER
VCR POWER
SHIFT
TV/VCR
REMOTE CONTROL UNIT CU-AV011

SURROUND function buttons:

REAR LEVEL –/+ buttons:
This functions as a REAR LEVEL button.
Adjust the sound level of the rear speakers.

CENTER LEVEL –/+ buttons:
This functions as a CENTER LEVEL button.
Adjust the sound level of the center speaker.

SUPER BASS button:
Use to switch the SUPER BASS function ON and OFF. (for emphasized bass sound).

PRO LOGIC button:
Switches the DOLBY PRO LOGIC SURROUND function ON and OFF.

CENTER MODE button:
Sets the DOLBY PRO LOGIC center mode to NORMAL/PHANTOM.

TEST TONE button:
Used when the DOLBY PRO LOGIC SURROUND is in the on

DECK RECEIVER POWER button:
When the power to this unit (Deck Reciever RX-590 only) is ON, you can switch power ON and OFF (standby) with the POWER button on the remote control.

FUNCTION button:
Used to change the tuner control amplifier function.

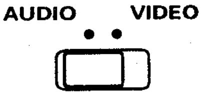
MASTER VOLUME –, + buttons:
Adjusts the overall volume.

1-24(STATION CALL) buttons:
For direct tuning of stations stored in STATION CALL memory.
Each time you press any one of the buttons, the indications displayed at the top of the buttons change in sequence.
This lets you select desired numbers when specifying station channels.

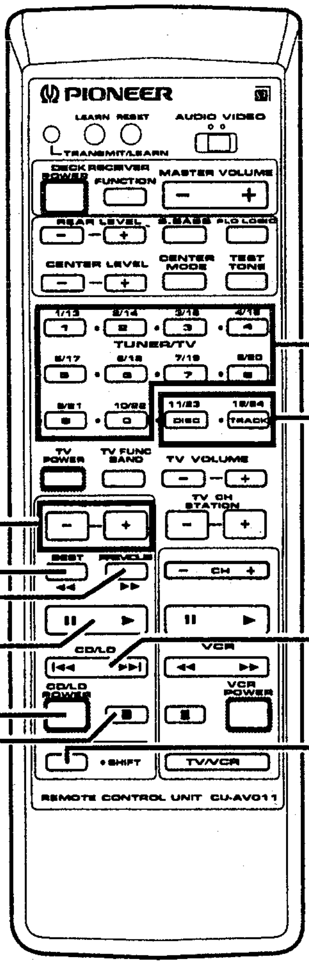
BAND button:
Used to select the band of the desired station. The bands change alternately each time the button is pressed.

→ FM reception
AM reception ←

STATION(–/+) buttons:
These are used to preset stations and recall preset stations.


AUDIO
VIDEO

Set the AUDIO/VIDEO switch to AUDIO.


PIONEER
LEARN RESET
AUDIO VIDEO
TRANSMIT/LEARN
DECK RECEIVER POWER
FUNCTION
MASTER VOLUME
REAR LEVEL
S.BASS
PRO LOGIC
CENTER LEVEL
CENTER MODE
TEST TONE
1/13
2/14
3/15
4/16
TUNER/TV
5/17
6/18
7/19
8/20
9/21
10/22
11/23
12/24
DISC
TRACK
TV POWER
TV FUNC BAND
TV VOLUME
TV CH STATION
BEST
PREVIOUS
CD/LD
VCR
CH
CD/LD POWER
VCR POWER
SHIFT
TV/VCR
REMOTE CONTROL UNIT CU-AV011

CD/LD POWER button:
Switches CD player power ON and OFF.

DISC (disc no.) SELECT button:
Use to select discs loaded in a file type CD player. On a multi-play compact disc player, you can use only the "+" button.

BEST button:
Pressing this button while a CD is playing lets you easily memorize the track that's playing. Pressing it when a CD is not playing starts play of the memorized track.

PREVIOUS button:
Press this button, and HI-LITE scan is performed on discs in the most recently listened order.

II(PAUSE)/►(PLAY) button:
Selects playback (►).
Temporarily interrupts playback (II).

■ (STOP) button:
Stops playback.

0 — 9(numeric) buttons:
These buttons operate as number buttons.

DISC button and TRACK button:
These buttons can only be used with file type compact disc players.
DISC button ... Press this button after selecting the desired disc with the 0—9 buttons.
TRACK button ... Press this button after selecting the desired disc and after selecting the desired track with the 0—9 buttons.

|◀◀,▶▶| (TRACK SEARCH) button:
Returns to the beginning of the track currently playing (|◀◀).
Advances to the next track (▶▶|).

SHIFT button:
If you do not simultaneously press this button when using the 0—9 buttons, they will not operate.

4. PACKING, EXPLODED VIEWS AND PARTS LIST

NOTES:

- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Parts marked by " ◉ " are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*

4.1 PACKING

(1) CONTRAST OF RX-590/KUXJ, RX-590S/KCXJ, RX-390/KUXJ AND KCXJ

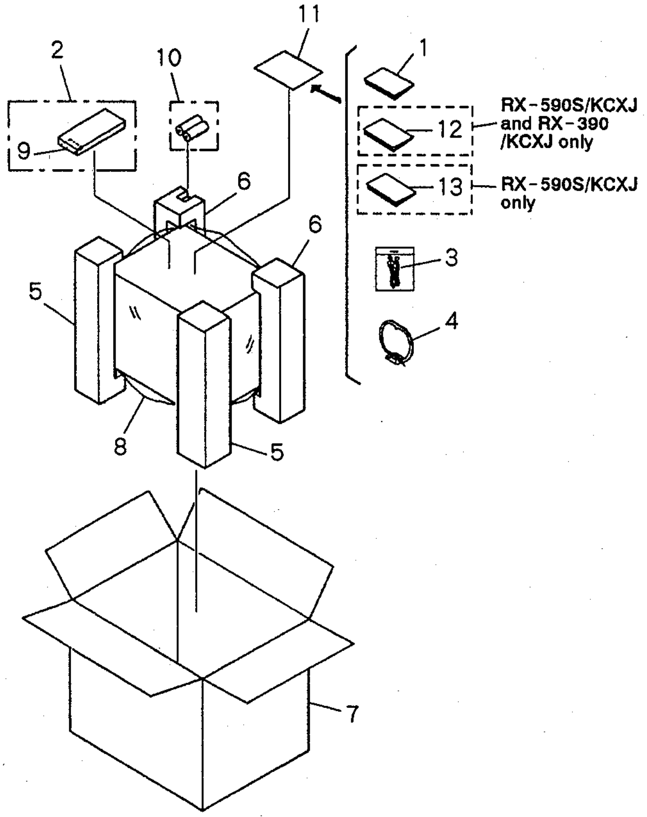
RX-590/KUXJ, RX-590S/KCXJ, RX-390/KUXJ and KCXJ have the same construction except for the following:

Mark	No.	Symbol & Description	Part No.				Remarks
			RX-590/ KUXJ	RX-590S/ KCXJ	RX-390/ KUXJ	RX-390/ KCXJ	
	2	Remote control unit (CU-RX033)	RPX1109	Not used	Not used	Not used	
	2	Remote control unit (CU-AV011)	Not used	RPX1111	Not used	Not used	*
	2	Remote control unit (CU-RX032)	Not used	Not used	RPX1108	RPX1108	
	7	Packing case	RHG1710	RHG1711	RHG1712	RHG1712	
	9	Battery cover	AZA7148	AZN2256	AZA7148	AZA7148	
NSP	10	Battery (R6P,AA)	VEM-013	Not used	VEM-013	VEM-013	
NSP	10	Battery (LR6,AA)	Not used	PEM1005	Not used	Not used	
	12	Operating instructions (French)	Not used	RRC1006	Not used	RRC1006	
	13	Operating instructions (English/French) (For remote control unit)	Not used	RRE1129	Not used	Not used	

Note * : Refer to "9. REMOTE CONTROL UNIT (CU-AV011)".

(2) PARTS LIST FOR RX-590/KUXJ

Mark	No.	Description	Part No.
	1	Operating instructions (English)	RRB1168
	2	Remote control unit (CU-RX033)	RPX1109
	3	FM antenna	ADH1017
	4	Loop antenna assy (L8004)	ATB7004
	5	Front pad	AHA7018
	6	Rear pad	AHA7019
	7	Packing case	RHG1710
NSP	8	Sheet	AHG7002
	9	Battery cover	AZA7148
NSP	10	Battery (R6P, AA)	VEM-013
NSP	11	Bag	AHG1105



4.2 EXTERIOR SECTION

(1) CONTRAST OF RX-590/KUXJ, RX-590S/KCXJ, RX-390/KUXJ AND KCXJ

RX-590/KUXJ, RX-590S/KCXJ, RX-390/KUXJ and KCXJ have the same construction except for the following:

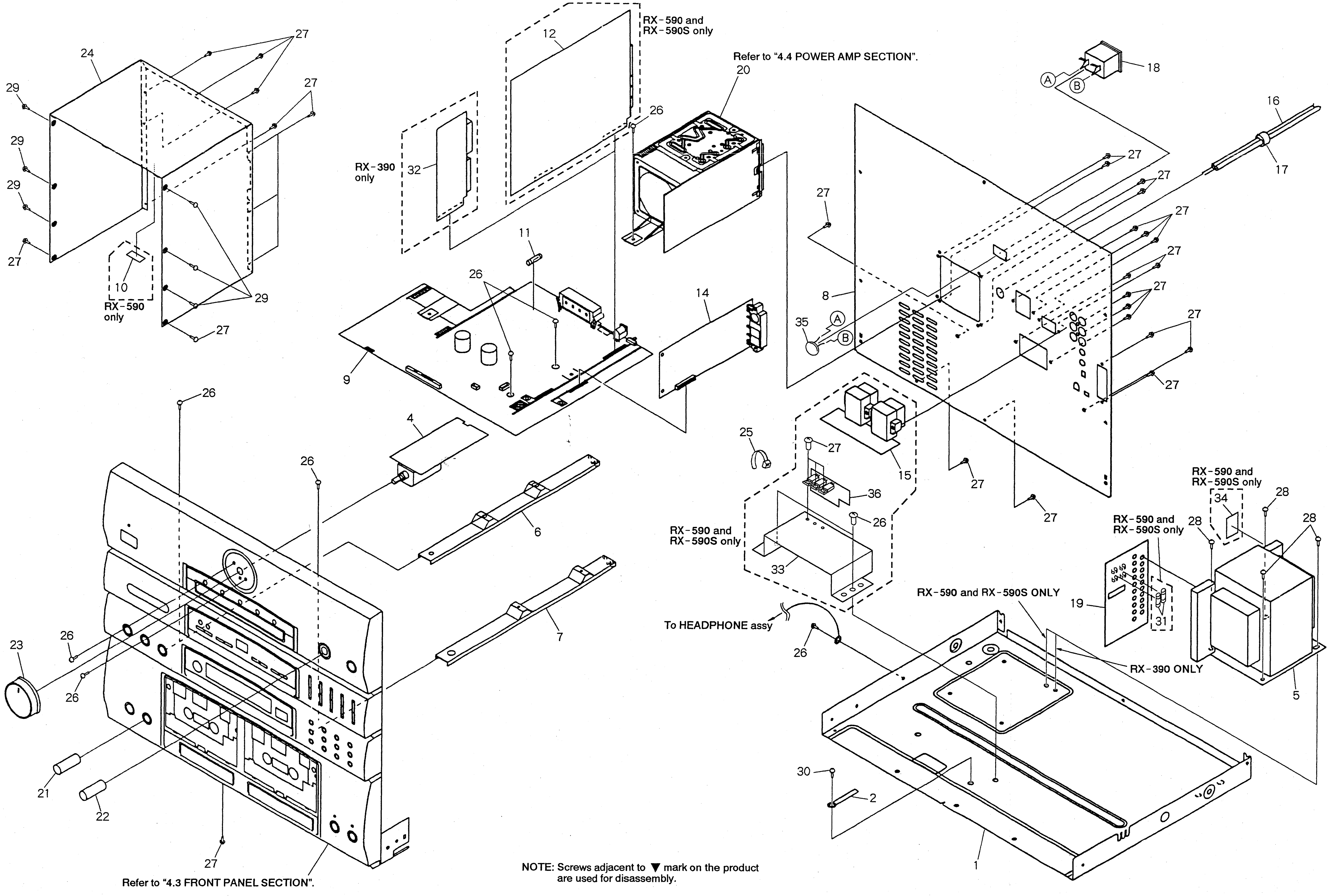
Mark	No.	Symbol & Description	Part No.				Remarks
			RX-590/ KUXJ	RX-590S/ KCXJ	RX-390/ KUXJ	RX-390/ KCXJ	
	4	VOLUME assy	RWZ3965	RWZ3965	AWZ7168	AWZ7168	
⚠	5	Power transformer (T101 : AC120V)	RTT1308	RTT1308	Not used	Not used	
⚠	5	Power transformer (T1 : AC120V)	Not used	Not used	ATS7029	ATS7029	
	8	Rear panel	RNA2039	RNA2040	RNA2041	RNA2042	
	9	AF assy	RWZ3693	RWZ3693	RWZ3767	RWZ3767	
	10	65 label	ORW1069	Not used	Not used	Not used	
⚠	11	Fuse (FU1 : 8A/125V)	REK1086	REK1086	Not used	Not used	
⚠	11	Fuse (FU1101 : 6.3A/125V)	Not used	Not used	AEK-309	AEK-309	
NSP	12	DOLBY FUNC assy	RWZ3771	RWZ3771	Not used	Not used	
	15	REAR SP assy	RWZ3770	RWZ3770	Not used	Not used	
	19	SECONDARY assy	RWZ3696	RWZ3696	RWZ3769	RWZ3769	
	20	POWER AMP unit	RXQ7024	RXQ7024	Not used	Not used	*
	20	POWER MOD. F100	Not used	Not used	AXQ3117	AXQ3117	*
⚠	31	Fuse (FU4, FU5 : 1.6A/125V)	REK1077	REK1077	Not used	Not used	
	32	FUNCTION assy	Not used	Not used	RWZ3768	RWZ3768	
NSP	33	Heat sink	RNE1882	RNE1882	Not used	Not used	
	34	PRIMARY assy	RWZ3695	RWZ3695	Not used	Not used	
	36	REGULATOR assy	RWZ3694	RWZ3694	Not used	Not used	

Note * : Refer to "4.4 POWER AMP SECTION".

(2) PARTS LIST FOR RX-590/KUXJ

Mark	No.	Description	Part No.
	1	Chassis (MTL)	ANA7008
	2	Cord clamper (STEEL)	RNH-184
	3	• • • • •	
	4	VOLUME assy	RWZ3965
⚠	5	Power transformer (T101 : AC120V)	RTT1308
NSP	6	Assembly holder L (MTL)	ANG7003
NSP	7	Assembly holder R (MTL)	ANG7004
	8	Rear panel (MTL)	RNA2039
	9	AF assy	RWZ3693
	10	65 label	ORW1069
⚠	11	Fuse (FU1 : 8A/125V)	REK1086
NSP	12	DOLBY FUNC assy	RWZ3771
	13	• • • • •	
	14	FM/AM TUNER module	AXQ3112
	15	REAR SP assy	RWZ3770
⚠	16	AC power cord	PDG1015
	17	AC cord stopper	AEP-113
⚠	18	1P AC outlet	AKP1015
	19	SECONDARY assy	RWZ3696
	20	POWER AMP unit	RXQ7024

Mark	No.	Description	Part No.
	21	SP. knob (PLS)	AAD7029
	22	BALANCE knob (PLS)	AAB7016
	23	VOL. knob (PLS)	AAB7015
	24	Bonnet case (MTL)	ANE7020
NSP	25	Nyron binder	ZCA-BK1
	26	Screw	BBZ30P080FMC
	27	Screw	BBZ30P080FZK
	28	Screw	BBZ40P080FZK
	29	Screw	VPZ30P080FZK
	30	Screw	BBZ30P060FMC
⚠	31	Fuse (FU4, FU5 : 1.6A/125V)	REK1077
	32	• • • • •	
NSP	33	Heat sink	RNE1882
	34	PRIMARY assy	RWZ3695
	35	Capacitor (C1, 0.01 μF/400V)	ACG1003
	36	REGULATOR assy	RWZ3694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RX-590 and RX-590S only

Refer to "4.4 POWER AMP SECTION".

RX-390 only

RX-590 only

RX-590 and RX-590S only

RX-590 and RX-590S only

RX-590 and RX-590S only

RX-590 and RX-590S ONLY

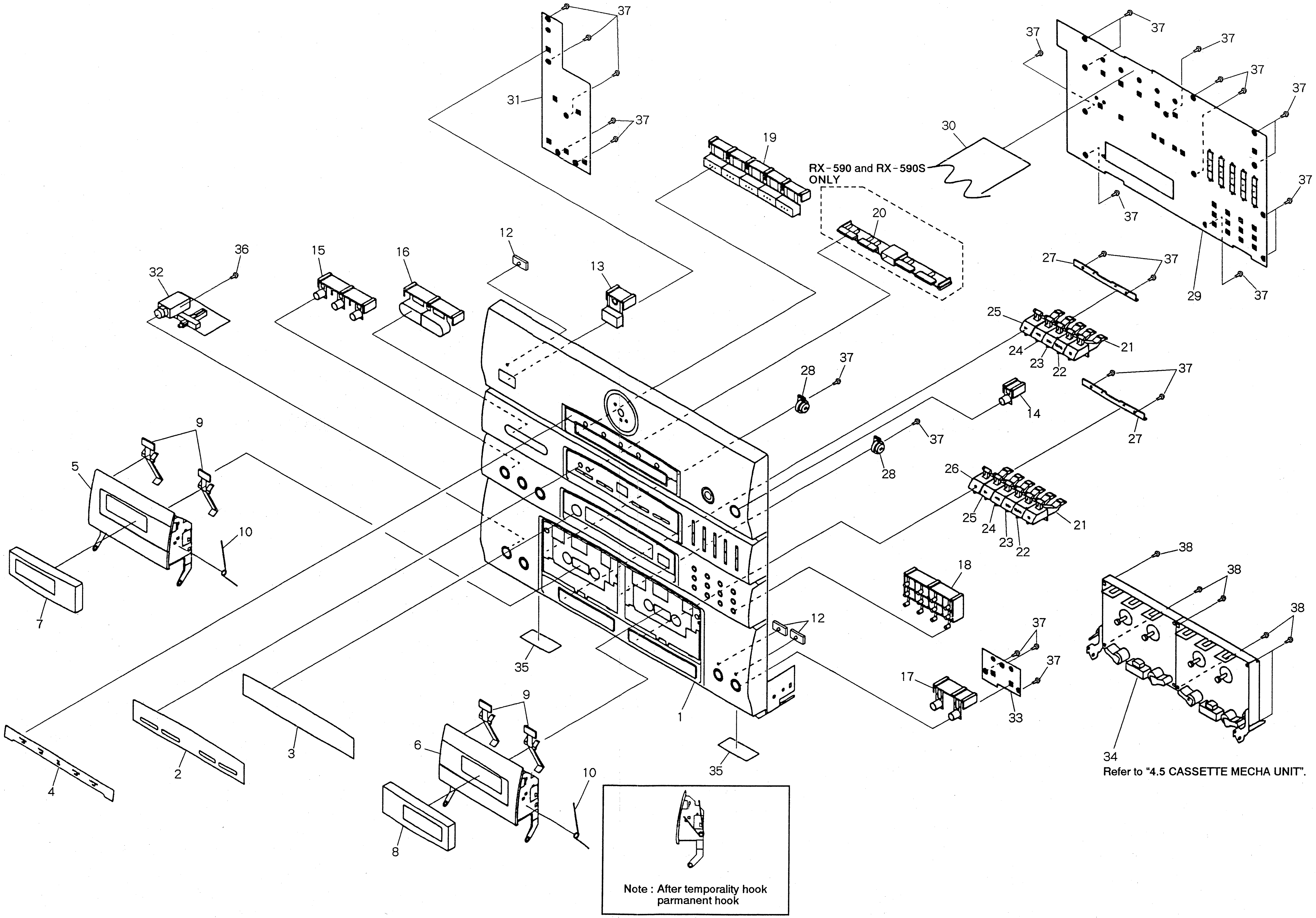
RX-390 ONLY

To HEADPHONE assy

Refer to "4.3 FRONT PANEL SECTION".

NOTE: Screws adjacent to ▼ mark on the product are used for disassembly.

4.3 FRONT PANEL SECTION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RX-590 and RX-590S ONLY

Refer to "4.5 CASSETTE MECHA UNIT".

Note : After temporality hook parmanent hook

(1) CONTRAST OF RX-590/KUXJ, RX-590S/KCXJ, RX-390/KUXJ AND KCXJ

RX-590/KUXJ, RX-590S/KCXJ, RX-390/KUXJ and KCXJ have the same construction except for the following:

Mark	No.	Symbol & Description	Part No.				Remarks
			RX-590/ KUXJ	RX-590S/ KCXJ	RX-390/ KUXJ	RX-390/ KCXJ	
	1	Front panel	RAH2694	RAH2694	RAH2695	RAH2695	
	2	GEQ panel	AAK7044	AAK7044	RAH2699	RAH2699	
	3	TUNER panel	AAK7045	AAK7045	AAK7043	AAK7043	
	20	DOL SURR button	AAD7031	AAD7031	Not used	Not used	
	29	DISPLAY assy	AWZ7165	AWZ7165	AWZ7164	AWZ7164	
	32	HEADPHONE assy	AWZ7163	AWZ7163	AWZ7262	AWZ7262	

(2) PARTS LIST FOR RX-590/KUXJ

Mark	No.	Description	Part No.
	1	Front panel (PLS)	RAH2694
	2	GEQ panel (PVC)	AAK7044
	3	TUNER panel (PVC)	AAK7045
	4	AMP. panel (PVC)	AAK7038
	5	Cassette door (L)	AAN7014
	6	Cassette door (R)	AAN7015
	7	Door panel L (PVC)	AAK7036
	8	Door panel R (PVC)	AAK7037
	9	Keep plate	ABK1017
	10	Spring	ABH1078
	11	• • • • •	
	12	P. BASS lens	AAK2243
	13	POWER button (PLS)	AAD7025
	14	S.BASS button (PLS)	AAD7028
	15	BAND button (PLS)	AAD7032
	16	TUNING button (PLS)	AAD7027
	17	COPY button (PLS)	AAD7030
	18	STATION button (PLS)	AAD7026
	19	FUNCTION Button (PLS)	AAD7024
	20	DOL SURR button (PLS)	AAD7031
	21	Deck knob A (PLS)	AAE7006
	22	Deck knob B (PLS)	AAE7007
	23	Deck knob C (PLS)	AAE7008
	24	Deck knob D (PLS)	AAE7009
	25	Deck knob E (PLS)	AAE7010
	26	Deck knob F (PLS)	AAE7011
NSP	27	Deck knob holder (MTL)	ANG7008
	28	Damper assy	AXA1008
	29	DISPLAY assy	AWZ7165
⚠	30	Flexible cable (J)	ADD1112

Mark	No.	Description	Part No.
	31	POWER SW assy	AWZ7167
	32	HEADPHONE assy	AWZ7163
	33	TAPE IND assy	AWZ7170
	34	CASSETTE MECHA unit	AWY1174
	35	Cushion rubber	AEB7002
	36	Screw (STEEL)	ABA1095
	37	Screw	VPZ30P080FMC
	38	Screw	BPZ26P080FMC

4.4 POWER AMP SECTION

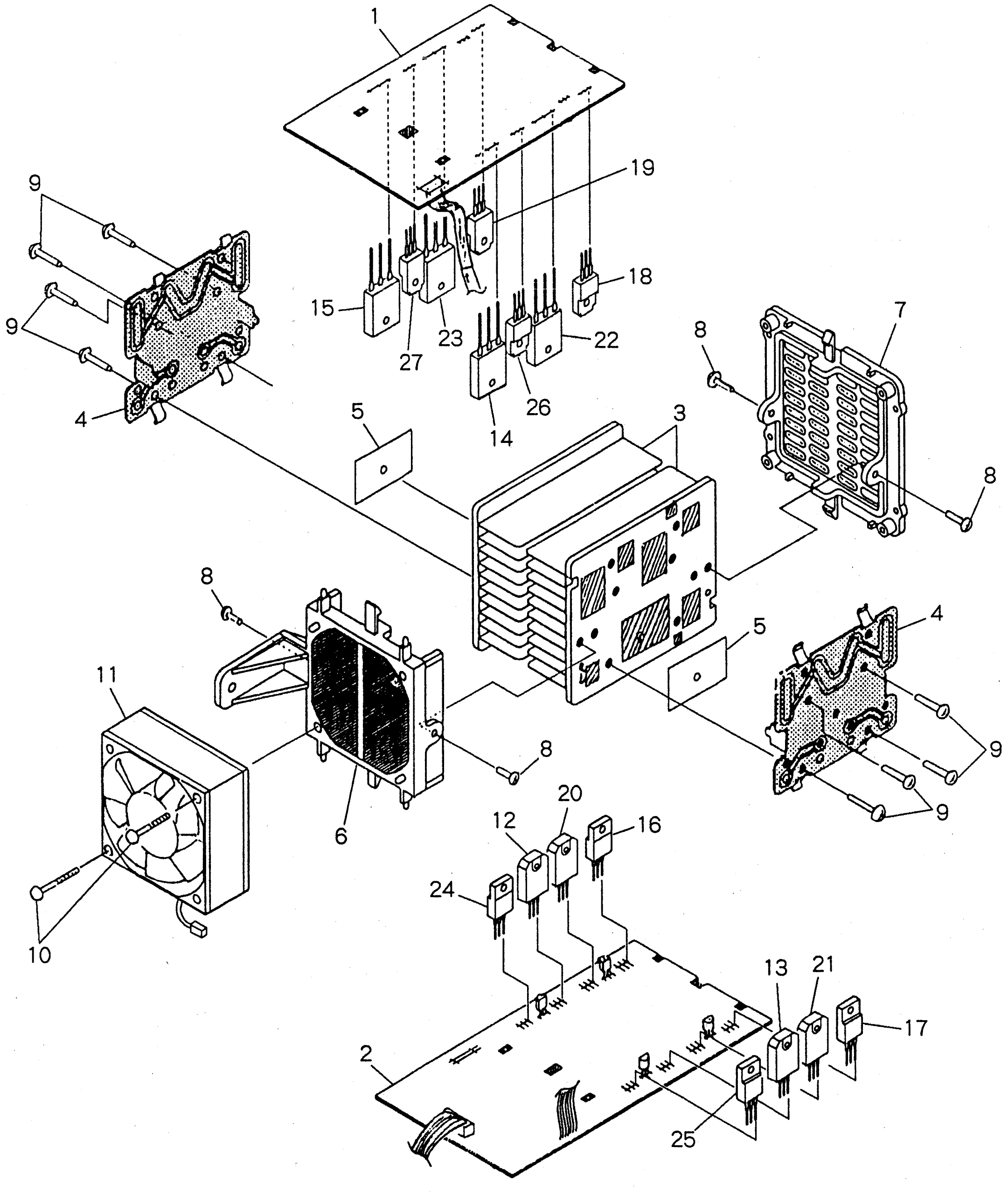
(1) PARTS LIST FOR RXQ7024 (for RX-590 and RX-590S)

Mark	No.	Description	Part No.
	1	FRONT assy	RWZ3697
	2	REAR assy	RWZ3698
	3	Heat sink	ANH7008
	4	Bracket	RNE1881
	5	Mica sheet	REE1029
	6	Mold A	AMR7005
	7	Mold B	AMR7006
	8	Screw (3 × 10)	ABA1021
	9	Screw	BBZ30P140FZK
	10	Screw	BPZ30P350FZK
	11	DC fan motor	AXM7003
⚠	12	Transistor (Q15)	2SA1264N
⚠	13	Transistor (Q16)	2SA1264N
⚠	14	Transistor (Q55)	2SA1264N
⚠	15	Transistor (Q56)	2SA1264N
⚠	16	Transistor (Q13)	2SA1837
⚠	17	Transistor (Q14)	2SA1837
⚠	18	Transistor (Q53)	2SA1837
⚠	19	Transistor (Q54)	2SA1837
⚠	20	Transistor (Q17)	2SC3181N
⚠	21	Transistor (Q18)	2SC3181N
⚠	22	Transistor (Q57)	2SC3181N
⚠	23	Transistor (Q58)	2SC3181N
⚠	24	Transistor (Q11)	2SC4793
⚠	25	Transistor (Q12)	2SC4793
⚠	26	Transistor (Q51)	2SC4793
⚠	27	Transistor (Q52)	2SC4793

(2) PARTS LIST FOR AXQ3117 (for RX-390)

Mark	No.	Description	Part No.
	1	FRONT ASSY FOR 100W	AWZ5453
	2	REAR PRTEC assy	AWZ5455
	3	Heat sink (AL)	ANH7008
	4	Bracket	ANG7009
	5	Sheet	AEB7001
	6	Mold A	AMR7005
	7	Mold B	AMR7006
	8	Screw (3 × 10)	ABA1021
	9	Screw	BBZ30P140FZK
	10	Screw	BPZ30P350FZK
	11	Fan motor	AXM1019
	12	Regulator IC (IC7401)	MC7812CT
	13	Regulator IC (IC7402)	NJM7912A
	14	Regulator IC (IC7403)	MC7812CT
	15	Regulator IC (IC7404)	MC7805CT
	16	• • • • •	
	17	• • • • •	
	18	• • • • •	
	19	• • • • •	
	20	Transistor (Q7503)	2SC4793
	21	Transistor (Q7504)	2SC4793
	22	Transistor (Q7509)	2SA1837
	23	Transistor (Q7510)	2SA1837
⚠	24	Transistor (Q7511)	2SA1264N
⚠	25	Transistor (Q7512)	2SA1264N
⚠	26	Transistor (Q7513)	2SC3181N
⚠	27	Transistor (Q7514)	2SC3181N

• POWER AMP SECTION (For RX-590 and RX-590S)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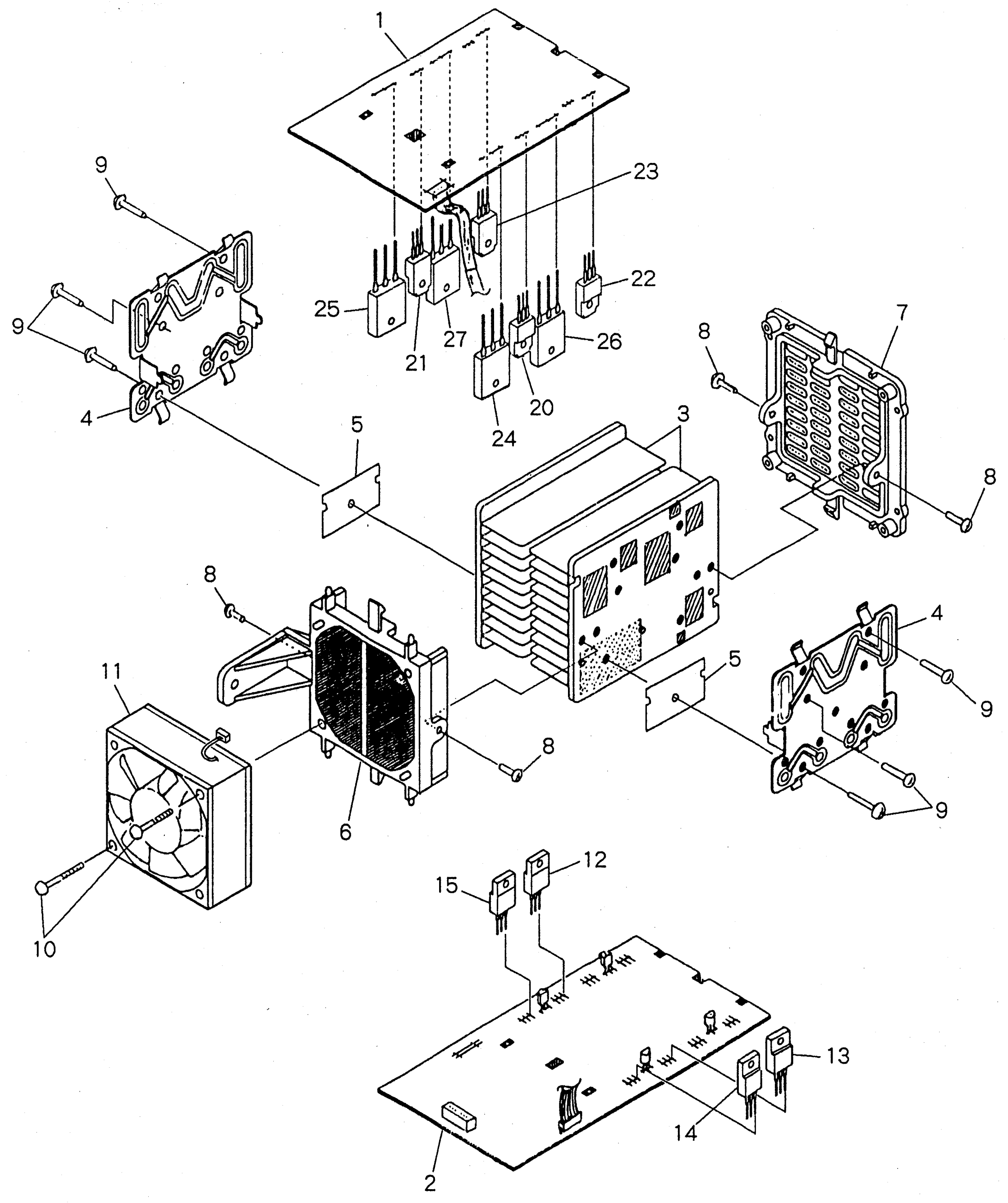
Note : Ensure that silicon grease does not adhere
to the Mold A (No. 6) and Mold B (No. 7).

• POWER AMP SECTION (For RX-390)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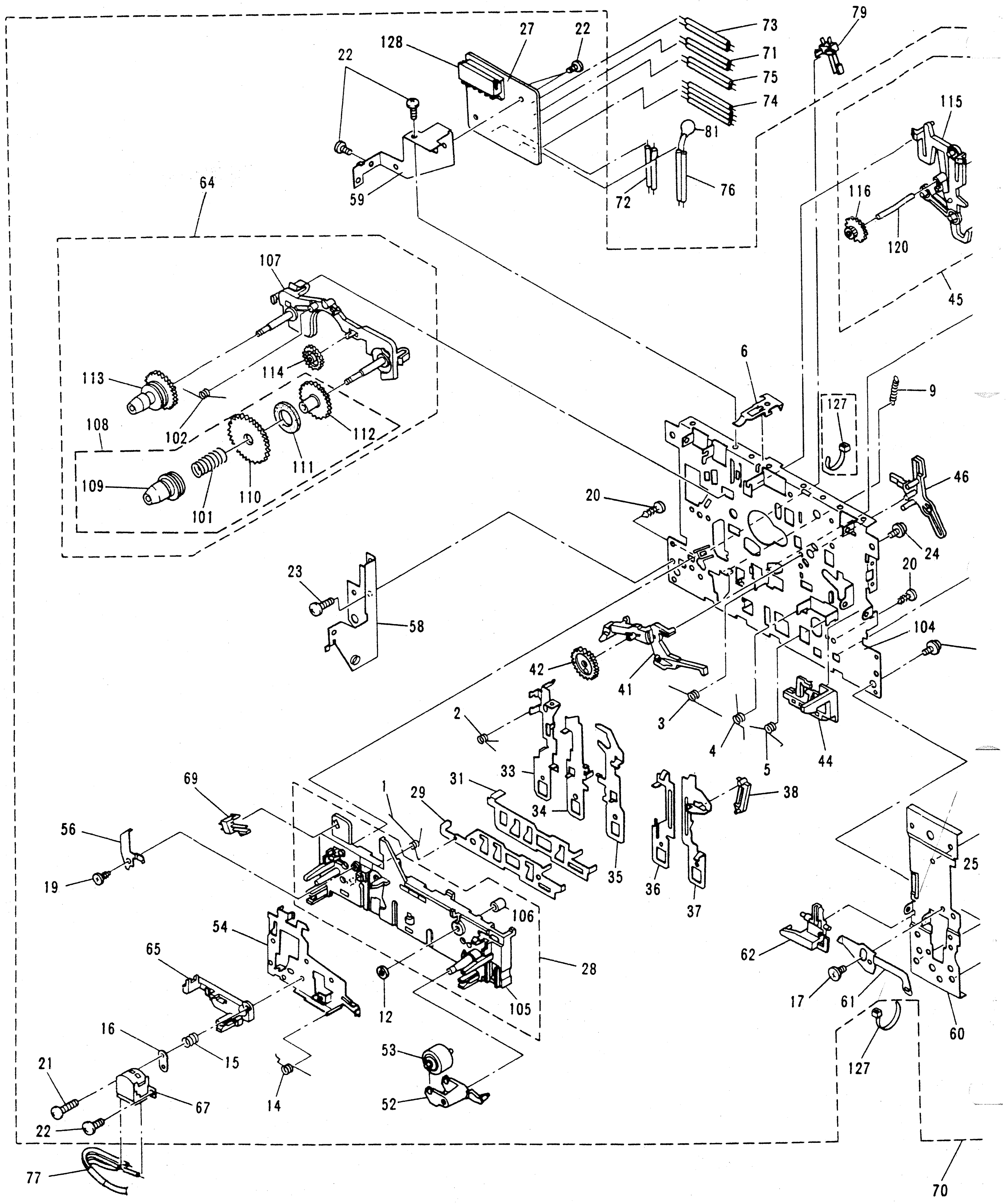
Note : Ensure that silicon grease does not adhere
to the Mold A (No. 6) and Mold B (No. 7).

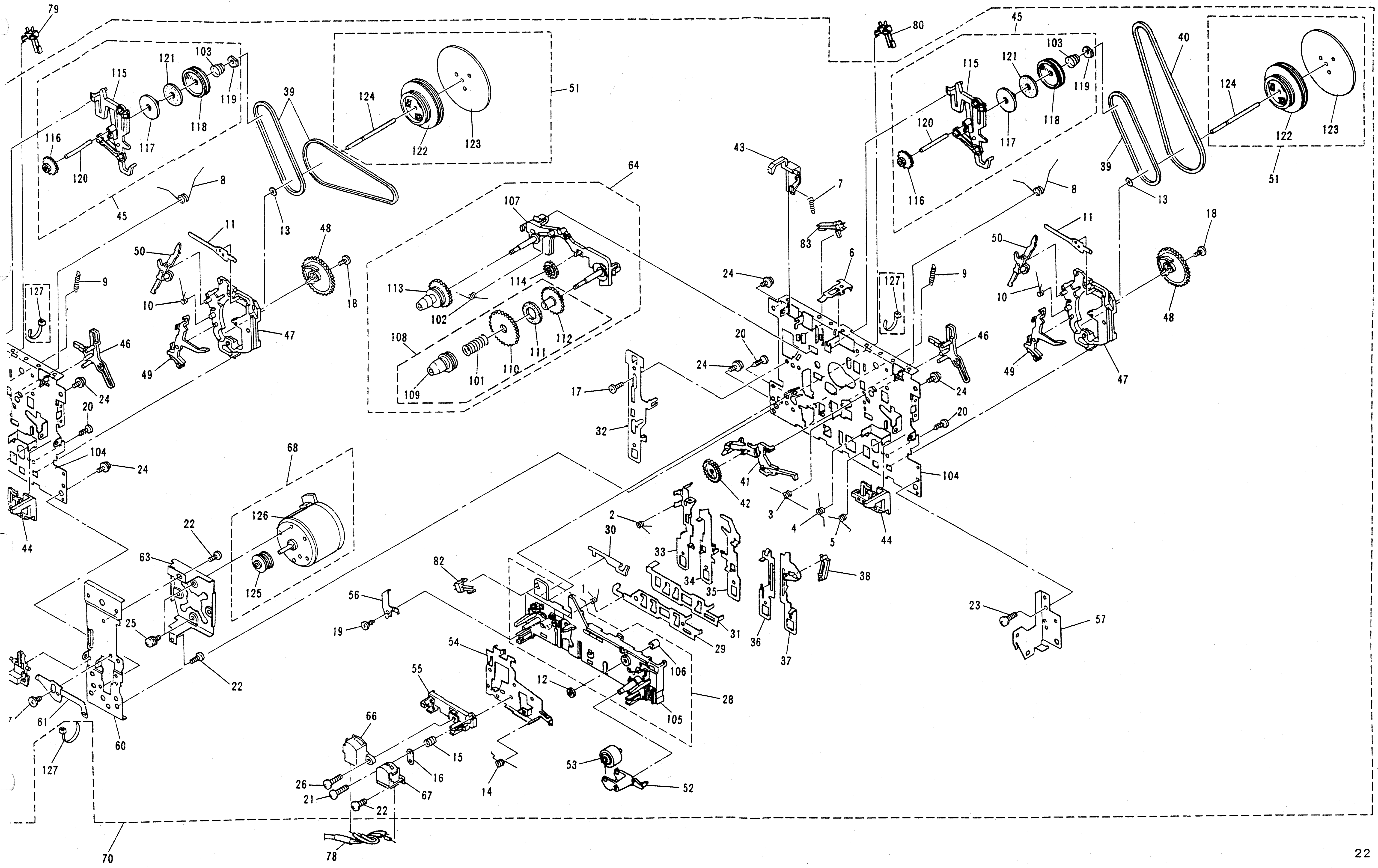
4.5 CASSETTE MECHA UNIT (For All Models)

Parts List

Mark	No.	Description	Part No.
	1	Spring	AZB1336
	2	Spring	AZB1337
	3	Spring	AZB1338
	4	Spring	AZB1339
	5	Spring	AZB1340
	6	Cassette spring	AZB1378
	7	Spring	AZB1344
	8	Spring	AZB1346
	9	Spring	AZB1347
	10	Spring	AZB1348
	11	Plate spring	AZB1349
	12	Washer	AZB1350
	13	Washer	AZB1351
	14	Spring	AZB1352
	15	Spring	AZB1353
	16	Earth lug	AZB1354
	17	Screw	AZB1355
	18	Screw	AZB1356
	19	Screw	AZB1357
	20	Screw	AZB1358
	21	Screw	AZB1359
	22	Screw	AZB1360
	23	Screw	AZB1361
	24	Screw	AZB1362
	25	Screw	AZB1363
	26	Screw	AZB1364
	27	PC board	AZN2111
	28	FRAM assy	AZN2113
	29	Function plate	AZN2116
	30	REC stopper	AZN2117
	31	SW lever	AZN2118
	32	REC lever	AZN2119
	33	PLAY lever	AZN2120
	34	REW lever	AZN2121
	35	FF lever	AZN2122
	36	SE lever	AZN2123
	37	PAUSE lever	AZN2124
	38	PAUSE arm	AZN2125
	39	Belt	AZN2126
	40	Belt	AZN2127
	41	P idler arm	AZN2128
	42	PL idler	AZN2129
	43	Inter lock	AZN2138
	44	EJECT lever	AZN2139
	45	PF FF idler assy	AZN2140
	46	Sensor	AZN2148
	47	AS base	AZN2149
	48	Cam gear	AZN2150
	49	Sensor lever	AZN2151
	50	Control lever	AZN2152
	51	FW assy	AZN2153
	52	Pinch arm	AZN2157
	53	Pinch roller	AZN2158
	54	Head base	AZN2159
	55	Head holder	AZN2160
	56	Switch plate	AZN2162

Mark	No.	Description	Part No.
	57	Button R holder	AZN2163
	58	Button L holder	AZN2164
	59	P holder	AZN2165
	60	Connect plate	AZN2166
	61	Connect arm	AZN2167
	62	Release arm	AZN2168
	63	Motor holder	AZN2246
NSP	64	Base SPI assy	AZN2171
	65	Tape guide	AZN2174
	66	E HEAD	AZP1025
	67	R/P HEAD	AZP1036
	68	Motor assy	AZX7008
	69	Switch (S2)	ASX1014
	70	Cassette mecha unit	AWY1150
	71	2P wire assy A (J4)	ADD1104
	72	2P wire assy B (J5)	ADD1105
	73	2P wire assy C (J7)	ADD1106
	74	4P jumper wire (J8)	ADD1107
	75	2P wire assy D (J3)	ADD1108
	76	2P wire assy E (J6)	ADD1109
	77	3P HEAD wire assy (J1)	ADX1613
	78	5P HEAD wire assy (J2)	ADX1614
	79	Switch (S1)	ASX1014
	80	Switch (S3)	ASX1014
	81	Ceramic capacitor (C1)	CKDYF223Z50
	82	Switch (S4)	ASX1014
	83	Switch (S5)	ASX1014
NSP	101	Spring	AZB1341
	102	Spring	AZB1342
NSP	103	Spring	AZB1345
	104	Chassis	AZN2112
NSP	105	FRAM	AZN2114
NSP	106	Metal	AZN2115
	107	Spindle base	AZN2130
	108	T reel assy	AZN2131
NSP	109	Reel cap	AZN2132
NSP	110	Reel gear	AZN2133
NSP	111	Felt	AZN2134
NSP	112	T reel	AZN2135
	113	S reel	AZN2136
	114	FF idler	AZN2137
NSP	115	Idler base	AZN2141
NSP	116	PF idler	AZN2142
NSP	117	PF pulley holder	AZN2143
NSP	118	PF pulley	AZN2144
NSP	119	PF bush	AZN2145
NSP	120	Shaft	AZN2146
NSP	121	Felt	AZN2147
NSP	122	Fly wheel	AZN2154
NSP	123	Ring	AZN2155
NSP	124	Capstan shaft	AZN2156
NSP	125	Motor pulley	AZN2170
NSP	126	Motor	AZX7009
	127	Nyron binder	AEC-093
NSP	128	Jumper connector (7P)	KPD7L





5. ADJUSTMENTS

5.1 TUNER SECTION

■ FM TUNER SECTION

- Set the mode selector to FM BAND.
- Connect the wiring as shown in Fig. 1

Step No.	Adjustment Title	FM SG (1kHz, ± 75kHz dev.)		Reception Frequency Display	Adjustment Location	Specifications
		Frequency (MHz)	Level (dB µ V)			
1	Center Adjustment	98 Non modulation	80 or more	98MHz	L6207	Adjust so that the DC voltage between Pin 4 and Pin 28 of IC6201 becomes 0V ± 50mV.
2	Front End Sensitivity	98	0-30	98MHz	L6102 T6101	Adjust so that the DC voltage of the Pin 12 of IC6201 (S-meter) becomes at maximum level.
3	TUNED IND. Lighting Level	98	15 ± 2	98MHz	VR6201	Adjust so that the indicators of TUNED IND. start to light up.

Note :
- Before adjusting, make sure there is no gap between L6101 and L6102. If there is a gap between them, bring them into contact with each other first, and then make adjustments.
- Make indicator adjustments in order of AM → FM.

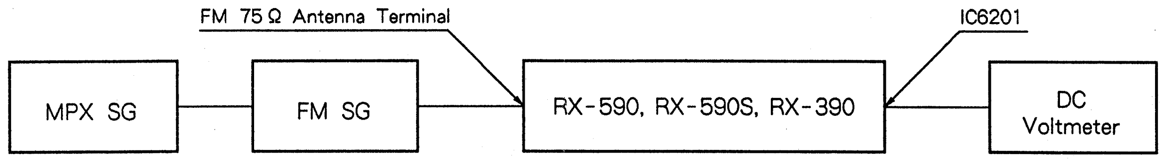

FM 75 Ω Antenna Terminal
IC6201
MPX SG
FM SG
RX-590, RX-590S, RX-390
DC Voltmeter

Fig. 1 FM adjustment connection diagram

■ AM TUNER SECTION

- Set the mode selector to AM BAND.
- Connect the wiring as shown in Fig. 2

Step No.	Adjustment Title	AM SG (400Hz, 30% Mod.)		Reception Frequency Display	Adjustment Location	Specifications
		Frequency (kHz)	Level (dB µ V/m)			
1	TUNED IND. Lighting Level	1000	47 ± 2	1000kHZ	VR6202	Adjust so that the indicators of TUNED IND. start to light up.

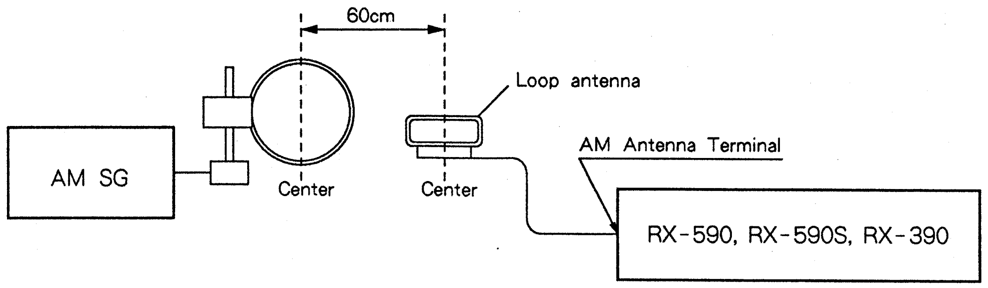
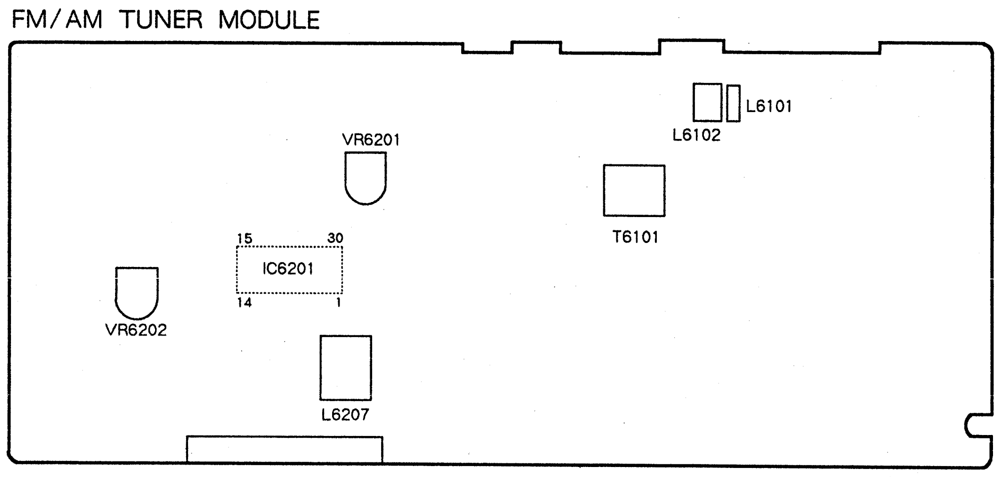

60cm
Loop antenna
AM Antenna Terminal
AM SG
Center
Center
RX-590, RX-590S, RX-390

Fig. 2 AM (MW) adjustment connection diagram


FM/AM TUNER MODULE
L6101
L6102
VR6201
T6101
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IC6201
14
1
VR6202
L6207

Fig. 3 Adjustment point

5.2 PRO-LOGIC ADJUSTMENT (RX-590 and RX-590S ONLY)

- Input signal : L, R negative phase, 1kHz sine wave Input when pin 29 of IC1602 (LA2780) reaches 300mV.
- Adjustment method : Adjust VR1601 so that 300mV is output to pin 46 of IC1601 (LV1001M).

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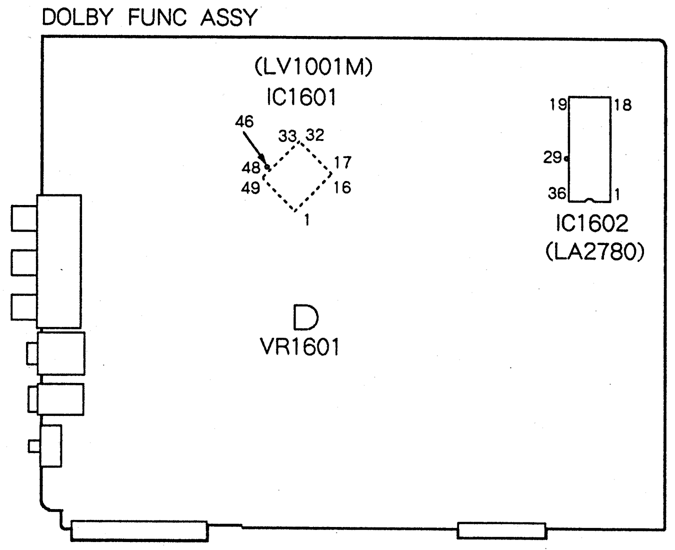
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(LV1001M)
IC1601
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IC1602
(LA2780)
VR1601

Fig. 4 Adjustment point

5.3 POWER AMP UNIT SECTION (RX-590 AND RX-590S ONLY)

5.3.1 Handling Precautions

- Since the heat sink and transistor metallic parts are connected to the Front Amp. output, make sure they do not contact the GND (chassis) or other circuits.
- Since there is residual high voltage in the POWER AMP unit ± B1 (FRONT assy) and ± B2 (REAR assy) even when the power is OFF, caution should be exercised. (If necessary, the voltage should be discharged).
- When handling the POWER AMP unit, make sure you do not touch the fan motor blade.

CAUTION :
Before performing this adjustment, short the blow trigger shorting pin (shown in Fig. 6) of the FRONT assy to prevent the protection IC from malfunction. After adjustment is completed, remove the short-circuit.

5.3.2 Adjustment and Confirmation of Idle Current

- Basically, the idle current needs to be confirmed when replacing a power transistor, driver transistor, or bias transistor, or when the entire split board assy of the POWER AMP unit has been replaced.
- Make sure the heat sink has cooled sufficiently before measuring the idle current. (Temperature should be the same as room temperature ; 25 °C is ideal, if possible.)
- Idle current stipulated value : 3 - 50mA.

■ Front Amp. side (FRONT assy)

Step	Measurement	Item	Remarks
1	L ch side	Short both sides of C7123 and C7124 on the Rear Amp. side.	Do not operate the Rear Amp. side.
2		Insert a resistor (0.22 Ω , 3W or more) in series in the connector CN7502 + B1 (or − B1) line (terminal No. 5 or 6). (Refer to Fig. 7.)	For measuring voltage at both sides of resistor.
3		Short both sides of C7524.	Do not operate R ch side.
4		Turn the power ON, wait 6 seconds, and then measure the resistance voltage in Step 2.	L ch Idle current I=V/0.22 (Ω)
5	R ch side	● Same as Steps 1 and 2 above. ● Short both sides of C7523.	Do not operate L ch side.
6		Turn the power ON under the above conditions, and after 6 seconds measure the resistance voltage in Step 2.	
7	——	If the measured idle current is greater than 50mA, perform the following procedure.	
8	L ch side	Short between the Point Ⓐ pattern in Fig. 8 using solder.	Connect R7517 to R7515 in a parallel circuit.
9	R ch side	Short between the Point Ⓑ pattern in Fig. 8 using solder.	Connect R7518 to R7516 in a parallel circuit.
10	——	After performing Step 8 and 9, remeasure the idle current and confirm that it is below 50mA.	
11	——	If the idle current is below 3mA, perform the following procedure.	
12	L ch side	Short between the point Ⓒ pattern in Fig. 8 using solder.	Connect R7551 to R7519 in a parallel circuit.
13	R ch side	Short between the point Ⓓ pattern in Fig. 8 using solder.	Connect R7552 to R7520 in a parallel circuit.
14	——	After performing steps 12 and 13, remeasure the idle current and confirm that it is greater than 3mA (within 3-50mA).	

■ Rear Amp. side (REAR assy)

Step	Measurement	Item	Remarks
1	Center amp. side	Short both sides of C7523 and C7524 on the Front Amp. side.	Do not operate the Front Amp. side.
2		Insert a resistor (0.22 Ω , 3W or more) in series in the connector CN7102 + B2 (or − B2) line (terminal No. 4 or 5). (Refer to Fig. 9.)	For measuring voltage at both sides of resistor.
3		Short both sides of C7124 on the Surround amp. side.	Do not operate the Surround Amp.
4		Turn the power ON, wait 6 seconds, and then measure the resistance voltage in Step 2.	Idle current : I=V/0.22 (Ω)
5	Surround amp. side	● Same as Steps 1 and 2 above. ● Short both sides of C7123 on Surround amp. side.	Do not operate the Surround Amp.
6		Turn the power ON under the conditions in steps 1 and 2, and after 6 seconds measure the resistance voltage in Step 2.	
7	——	If the measured idle current is greater than 50mA, perform the following procedure.	
8	Center amp. side	Short between the Point Ⓔ pattern in Fig. 10 using solder.	Connect R7117 to R7115 in a parallel circuit.
9	Surround amp. side	Short between the Point Ⓕ pattern in Fig. 10 using solder.	Connect R7118 to R7116 in a parallel circuit.
10	——	After performing steps 8 and 9, remeasure the idle current and confirm that it is below 50mA.	
11	——	If the idle current is below 3mA, perform the following procedure.	
12	Center amp. side	Short between the point Ⓖ pattern in Fig. 10 using solder.	Connect R7151 to R7119 in a parallel circuit.
13	Surround amp. side	Short between the point Ⓗ pattern in Fig. 10 using solder.	Connect R7152 to R7120 in a parallel circuit.
14	——	After performing steps 12 and 13, remeasure the idle current and confirm that it is greater than 3mA (within 10-50mA).	

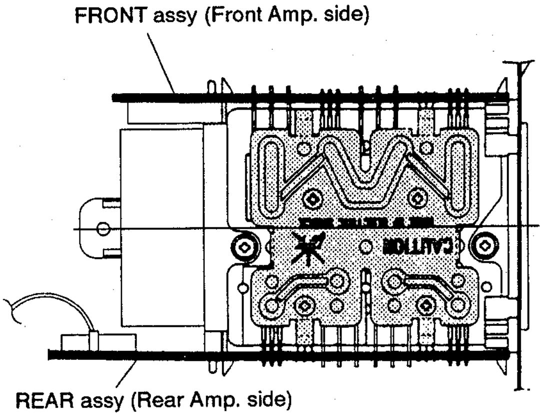

FRONT assy (Front Amp. side)
REAR assy (Rear Amp. side)

Fig. 5 POWER AMP unit

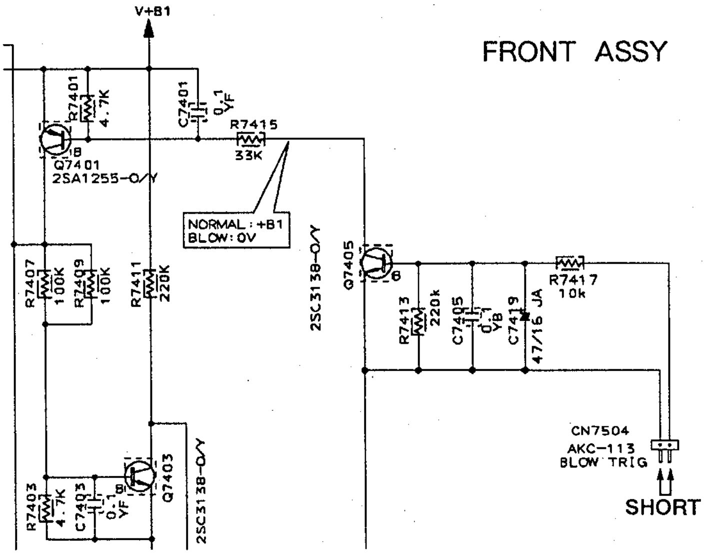

V+B1
FRONT ASSY
R7401
4.7K
C7401
0.1
YF
R7415
33K
Q7401
2SA1255-O/Y
NORMAL : +B1
BLOW : 0V
R7407
100K
R7409
100K
R7411
220K
2SC3138-O/Y
Q7405
R7413
220k
C7405
0.1
YB
C7419
47/16 JA
R7417
10k
CN7504
AKC-113
BLOW TRIG
SHORT
R7403
4.7K
C7403
0.1
YF
Q7403
2SC3138-O/Y

Fig. 6 Blow trigger circuit

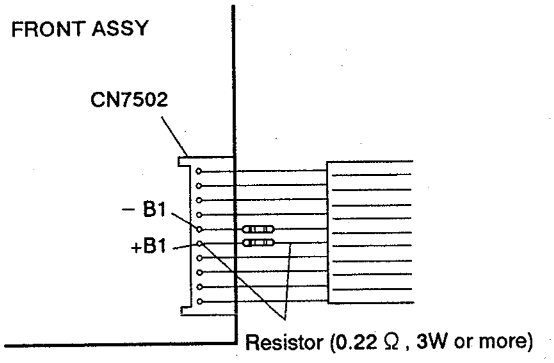

FRONT ASSY
CN7502
− B1
+B1
Resistor (0.22 Ω , 3W or more)

Fig. 7 Checking for voltage at both sides of resistor

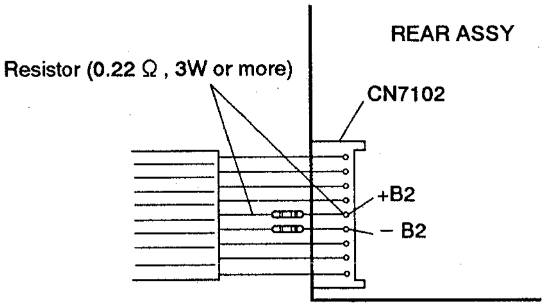

REAR ASSY
Resistor (0.22 Ω , 3W or more)
CN7102
+B2
− B2

Fig. 9 Checking for voltage at both sides of resistor

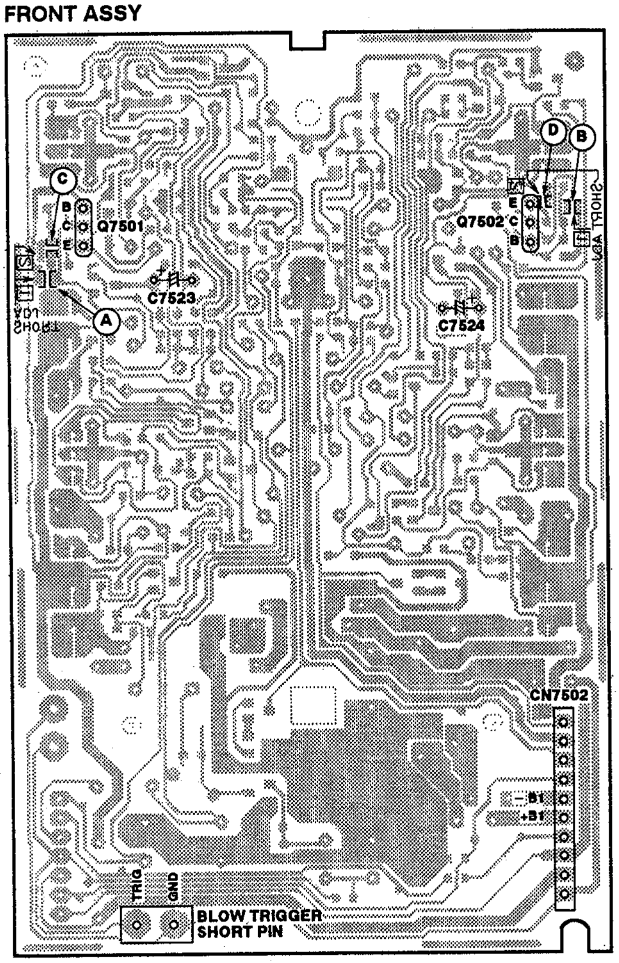

FRONT ASSY
C
B
C
E
Q7501
C7523
A
D
B
E
C
B
Q7502
C7524
CN7502
−B1
+B1
TRIG
GND
BLOW TRIGGER
SHORT PIN

Fig. 8 Adjustment point

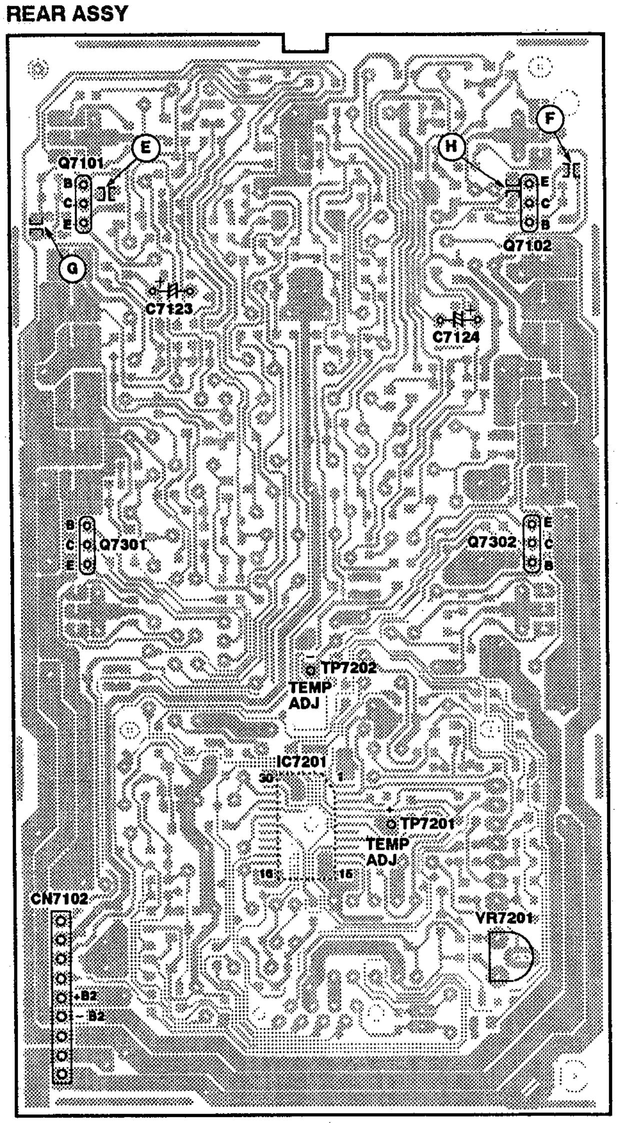

REAR ASSY
E
H
F
Q7101
B
C
E
G
E
C
B
Q7102
C7123
C7124
B
C
E
Q7301
Q7302
E
C
B
TP7202
TEMP
ADJ
IC7201
30
1
TP7201
TEMP
ADJ
16
15
CN7102
VR7201
+B2
− B2

Fig. 10 Adjustment point

5.3.3 Adjusting the Operating Temperature Setting of the Fan Motor (VR7201)

This adjustment is necessary when IC1013 (REGULATOR assy : +12V regulator), Q7301 and Q7302 (temperature sensors) or VR7201 has been replaced, or when the entire split board assy of the POWER AMP unit has been replaced.

> CAUTION :
>
> Before performing this adjustment, short the blow trigger shorting pin (shown in Fig. 6) of the FRONT assy to prevent the protection IC from malfunction. After adjustment is completed, remove the short-circuit.

■ Adjustment-Related Cautions

- Make sure the heat sink has sufficiently cooled (is the same as room temperature Ta.)
- Once the power has been turned ON, make measurements and adjustments as quickly as possible. (If too much time is taken, the heat sink temperature will rise, and the measurements will deviate from the Ta measurement point.)

■ Adjustment

1. Connect a voltmeter between TP7201 and TP7202 (or between IC7201 terminals No. 7 and 9).
   (Refer to Fig. 10 and 11.)
2. Determine the fan motor operating temperature setting by means of the following formula. (Tolerance is within ± 30mV.)
   Formula :(75 ° C − Ta) × 19(mV)
   Ta : ambient temperature (° C)
3. Adjust VR7201 so that the voltage between TP7201 and TP7202 is the value obtained from the above formula.
   For example:
   when the room temperature is 25 ° C,
   set value = (75 − 25) × 19 (mV)
   = 950mV(tolerance within ± 30mV)

Note :

Adjustment during service should be ± 30mV, but if this value cannot be obtained with the measuring instruments used for adjustment, ± 50mV is acceptable.

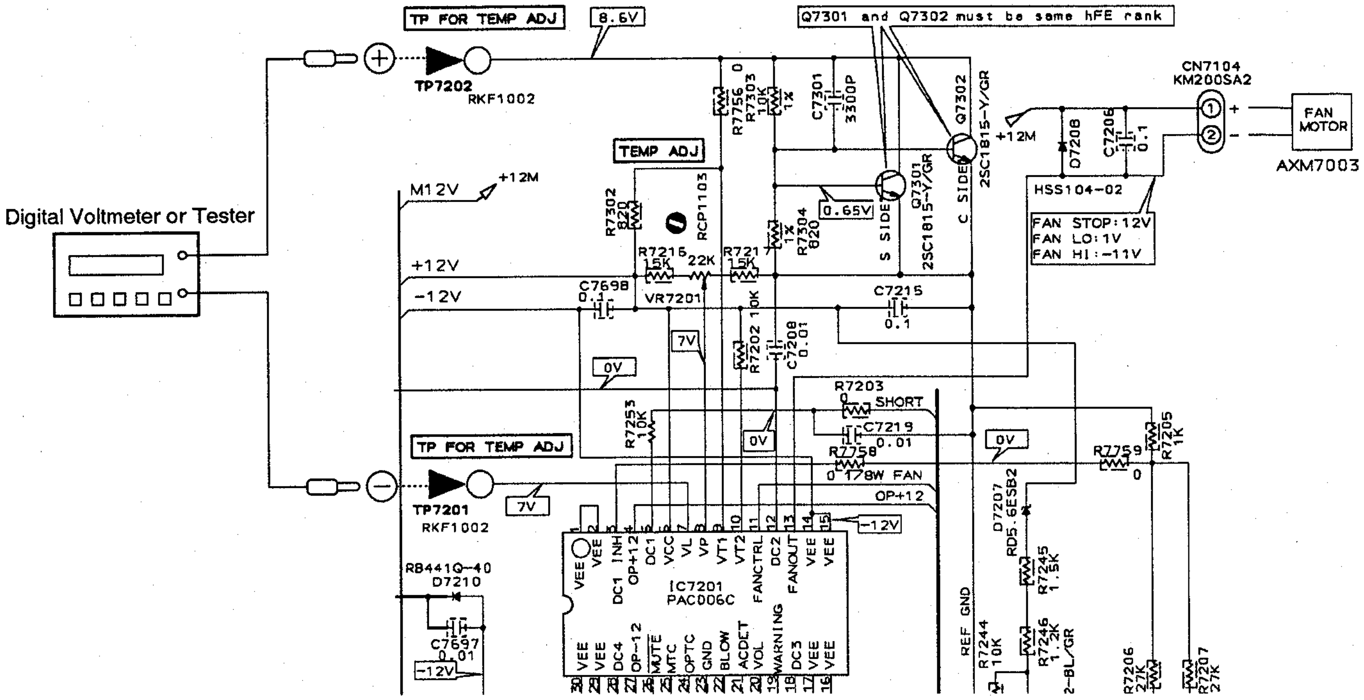

TP FOR TEMP ADJ
8.6V
Q7301 and Q7302 must be same hFE rank
TP7202
RKF1002
CN7104
KM200SA2
FAN MOTOR
AXM7003
Digital Voltmeter or Tester
TEMP ADJ
M12V
+12M
+12V
−12V
R7302 820
RCP1103
R7215 1.5K
22K
R7217 1.5K
VR7201
C7698 0.1
7V
0V
R7756 0
R7303 10K
1K
C7301 3300P
Q7302 2SC1815-Y/GR
Q7301 2SC1815-Y/GR
0.65V
S SIDE
C SIDE
R7304 820
R7202 10K
C7208 0.01
C7215 0.1
R7203 0
SHORT
C7219 0.01
R7758
0 1/8W FAN
OP+12
−12V
0V
D7208
C7206 0.1
HSS104-02
FAN STOP: 12V
FAN LO: 1V
FAN HI: −11V
R7253 10K
TP FOR TEMP ADJ
TP7201
RKF1002
7V
RB441Q-40
D7210
C7697 0.01
−12V
IC7201
PAC006C
VEE
INH
OP+12
DC1
VCC
VL
VP
VT1
VT2
FANCTRL
DC2
FANOUT
VEE
VEE
DC4
OP−12
MUTE
MTC
OPTC
GND
BLOW
ACDET
VOL
WARNING
DC3
D7207 RD5.6ESB2
R7245 1.5K
R7759 0
R7205 1K
REF GND
R7244 10K
R7246 1.2K 2-BL/GR
R7206 27K
R7207 27K

Fig. 11 Adjustment of operating temperature setting of fan motor

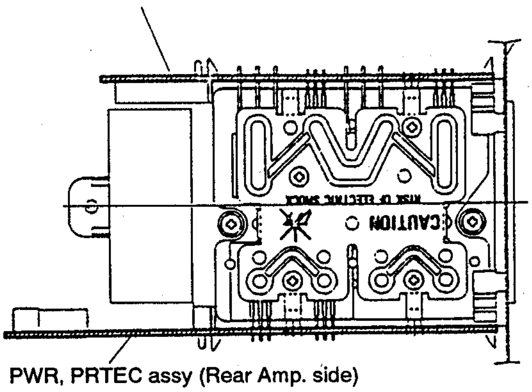
5.4 POWER AMP MODULE SECTION (RX-390 ONLY)

5.4.1 Handling Precautions

- Since the heat sink and transistor metallic parts are connected to the Front Amp. output, make sure they do not contact the GND (chassis) or other circuits.
- Since there is residual high voltage in the POWER AMP module ± B1 (FRONT assy for 100W) and ± B2 (PWR, PRTEC assy) even when the power is OFF, caution should be exercised. (If necessary, the voltage should be discharged).
- When handling the POWER AMP module, make sure you do not touch the fan motor blade.

5.4.2 Adjustment and Confirmation of Idle Current

- Basically, the idle current needs to be confirmed when replacing a power transistor, driver transistor, or bias transistor, or when the entire split board assy of the POWER AMP module has been replaced.
- Make sure the heat sink has cooled sufficiently before measuring the idle current. (Temperature should be the same as room temperature ; 25 °C is ideal, if possible.)
- Idle current stipulated value : 3 - 50mA.


FRONT ASSY FOR 100W (Front Amp. side)

PWR, PRTEC assy (Rear Amp. side)

Fig. 12 POWER AMP module (POWER MOD. F100)

■ **Front Amp. side (FRONT assy for 100W)**

Step	Measurement	Item	Remarks
1	L ch side	Short both sides of C7123 and C7124 on the Rear Amp. side.	Do not operate the Rear Amp. side.
2		Insert a resistor (0.22 Ω , 3W or more) in series in the connector CN7502 + B1 (or − B1) line (terminal No. 5 or 6). (Refer to Fig. 13.)	For measuring voltage at both sides of resistor.
3		Short both sides of C7524.	Do not operate R ch side.
4		Turn the power ON, wait 6 seconds, and then measure the resistance voltage in Step 2.	L ch Idle current I=V/0.22 (Ω)
5	R ch side	● Same as Steps 1 and 2 above. ● Short both sides of C7523.	Do not operate L ch side.
6		Turn the power ON under the above conditions, and after 6 seconds measure the resistance voltage in Step 2.	
7	−	If the measured idle current is greater than 50mA, perform the following procedure.	
8	L ch side	Short between the Point Ⓐ pattern in Fig. 14 using solder.	Connect R7517 to R7515 in a parallel circuit.
9	R ch side	Short between the Point Ⓑ pattern in Fig. 14 using solder.	Connect R7518 to R7516 in a parallel circuit.
10	−	After performing Step 8 and 9, remeasure the idle current and confirm that it is below 50mA.	
11	−	If the idle current is below 3mA, perform the following procedure.	
12	L ch side	Short between the point Ⓒ pattern in Fig. 14 using solder.	Connect R7551 to R7519 in a parallel circuit.
13	R ch side	Short between the point Ⓓ pattern in Fig. 14 using solder.	Connect R7552 to R7520 in a parallel circuit.
14	−	After performing steps 12 and 13, remeasure the idle current and confirm that it is greater than 3mA (within 3-50mA).	

5.4.3 Adjusting the Operating Temperature Setting of the Fan Motor (VR7701)

This adjustment is necessary when IC7403 (+12V regulator), Q7301 and Q7302 (temperature sensors) or VR7701 has been replaced, or when the entire split board assy of the POWER AMP module has been replaced.

■ Adjustment-Related Cautions

- Make sure the heat sink has sufficiently cooled (is the same as room temperature Ta.)
- Once the power has been turned ON, make measurements and adjustments as quickly as possible. (If too much time is taken, the heat sink temperature will rise, and the measurements will deviate from the Ta measurement point.)

■ Adjustment

1. Connect a voltmeter between TEMP and TP (or between IC7702 terminals No. 3 and 2). (Refer to Fig. 14 and 15.)
2. Determine the fan motor operating temperature setting by means of the following formula. (Tolerance is within ± 30mV.)
   Formula :$(85^{\circ}C - Ta) \times 19$(mV)
   Ta : ambient temperature (°C)
3. Adjust VR7701 so that the voltage between TEMP and TP is the value obtained from the above formula.
   For example:
   when the room temperature is 25°C,
   set value = $(85 - 25) \times 19$ (mV)
   = 1140mV(tolerance within ± 30mV)

Note :
Adjustment during service should be ± 30mV, but if this value cannot be obtained with the measuring instruments used for adjustment, ± 50mV is acceptable.

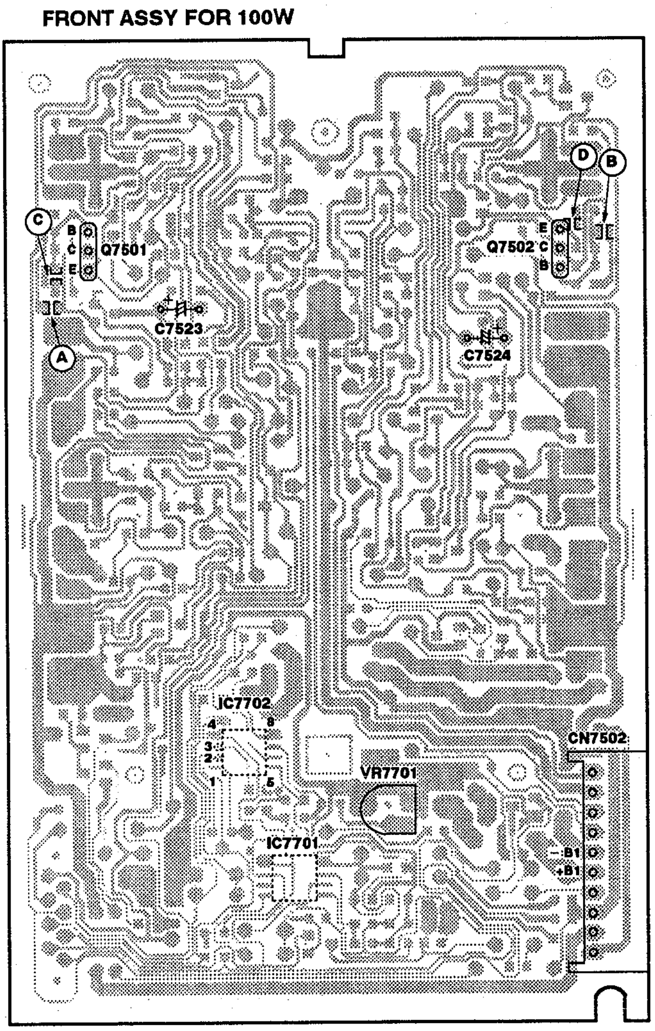

FRONT ASSY FOR 100W
Ⓓ
Ⓑ
Ⓒ
Ⓐ
Q7501
Q7502
B
C
E
C7523
C7524
IC7702
VR7701
IC7701
CN7502
−B1
+B1
4
8
3
2
1
5

Fig. 14 Adjustment point

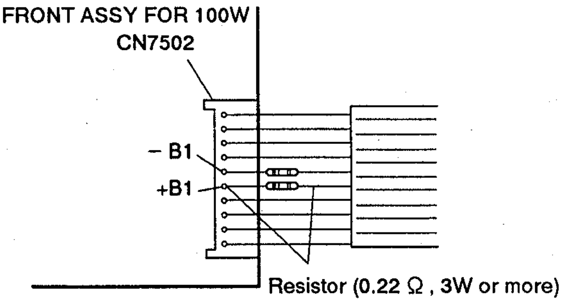

FRONT ASSY FOR 100W
CN7502
−B1
+B1
Resistor (0.22 Ω, 3W or more)

Fig. 13 Checking for voltage at both sides of resistor

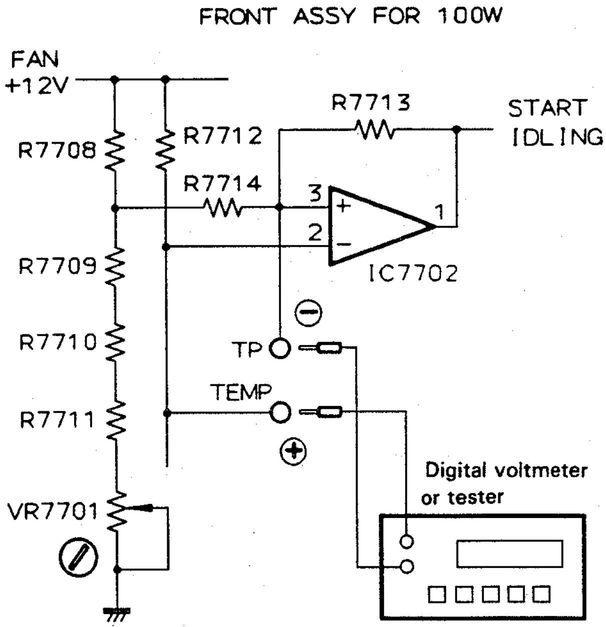

FRONT ASSY FOR 100W
FAN +12V
R7708
R7712
R7713
START IDLING
R7714
3
2
1
+
−
IC7702
R7709
R7710
R7711
VR7701
⊖
TP
TEMP
⊕
Digital voltmeter or tester

Fig. 15 Adjustment of operating temperature setting of fan motor

5.5 CASSETTE DECK SECTION

5.5.1 Adjustment of Mechanical Section

- Tape Speed Adjustment

Test tape : STD-301E (3kHz, 30min)

Step	Mode	Input Signal & Test Tape	Adjustment Location		Measuring Location	Adjustment Value	Remarks
1	PLAY	Playback the STD-301E tape to 3kHz.	Deck I	DISPLAY assy VR4951	AF assy TP4401	Press the PLAY button and adjust the frequency to 3010Hz ± 10Hz. Make sure that the wow and flutter is within 0.3%.	
2		Set the HIGH SPEED COPY switch to ON.					
3	HIGH SPEED	Playback the STD-301E tape to 3kHz.	Deck I	———	———	Press the PAUSE button.	
4		Set test tape STD-631.	Deck II	———	———	Press the REC button. (HIGH SPEED COPY to start.)	
5		———	———	DISPLAY assy VR4952	AF assy TP4401	Adjust so that the frequency to 6020Hz ± 20Hz.	

5.5.2 Adjustment of Electric Section

■ Check and conduct the following before adjusting the electric section.

1. Adjustment of tape speed has been completed.
2. Clean and demagnetize the head using a head eraser.
3. When measured, the level should be 0dBV=1Vrms.
4. Use side A of the specified tape for adjustment.
   STD-331E : For adjustment of playback system
   STD-631 : NORMAL blank tape
5. Prepare the following measuring devices :
   AC millivoltmeter, Low-frequency oscillator, Attenuator, Oscilloscope
6. Adjust both L and R channels, unless specified otherwise.
7. Set the DOLBY NR switches to OFF.
8. Warm up the unit for several minutes before adjustment. Especially before adjusting the frequency characteristics of recording and playback, warm up for 3 to 5 minutes in REC/PLAY mode.
9. Make sure to follow the proper order of the adjustment procedure. Any change in the order may cause an improper result.

List of Adjustment

DECK I

1. Head Azimuth Adjustment
2. Playback Level Adjustment

DECK II

1. Head Azimuth Adjustment
2. Playback Level Adjustment
3. Recording Level and Bias Level Adjustment

Note :

As the reference recording level is 250nwb/m for STD-331E, the recording level will be higher by 4 dB for STD-331B (160nwb/m). When adjusting, pay carefull attention to the type of tape used.

Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.

"DOLBY" and the double-D system are trademarks of Dolby Laboratories Licensing Corporation.

■ Head Adjustment of Deck I and Deck II

1. Head Azimuth Adjustment

Step	Tape Selector	Mode	Input Signal/ Test Tape	Deck	Adjustment Location	Measuring Location	Adjustment Value	Remarks
1	NORM	PLAY	Playback the test tape STD-331E (10kHz, − 20dB)	I	Head azimuth adjustment screw (Fig. 17)	AF assy TP4401, TP4403	Adjust so that the signal level is at maximum and the phase difference is zero (0).	Lock the screw with screw lock after completing adjustment.
				II				

2. Playback level Adjustment

Step	Tape Selector	Mode	Input Signal/ Test Tape	Deck	Adjustment Location	Measuring Location	Adjustment Value	Remarks
1	NORM	PLAY	Playback the test tape STD-331E (315Hz, 0dB)	I	AF assy VR4403 (L ch) VR4404 (R ch)	AF assy TP4401 (L ch), TP4403 (R ch)	− 1.2dBV ± 0.5dB	
				II	AF assy VR4401 (L ch) VR4402 (R ch)			

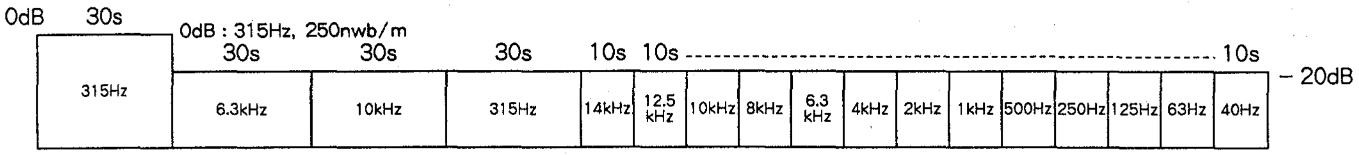

0dB
30s
0dB : 315Hz, 250nwb/m
30s
30s
30s
10s
10s
10s
− 20dB
315Hz
6.3kHz
10kHz
315Hz
14kHz
12.5 kHz
10kHz
8kHz
6.3 kHz
4kHz
2kHz
1kHz
500Hz
250Hz
125Hz
63Hz
40Hz

Fig. 16 Test Tape STD-331E

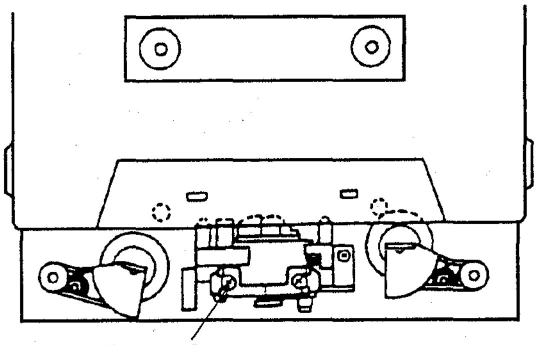

Azimuth Adjustment Screw

Fig. 17 Head azimuth adjustment

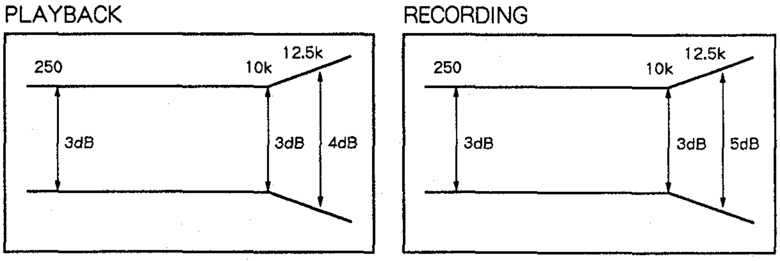


Fig. 18 Frequency characteristics

■ Head Adjustment of Deck Ⅱ

3. Recording level and Bias level Adjustment

- Before staring adjustment, turn VR4351 and VR4352 by 45 degrees counterclockwise from the mechanical center.

Step	Tape Selector	Mode	Input Signal/ Test Tape	Adjustment Location	Measuring Location	Adjustment Value	Remarks
1	NORM	REC PAUSE	Inputs 315Hz to the CD RCA input terminal. Set the function to CD. Set test tape STD-631.	Input signal level	AF assy TP4401 (L ch), TP4403 (R ch)	Set the input signal to be − 25.2dBV.	
2		REC → PLAY	Record and playback the test tape STD-631.	AF assy VR4301 (L ch) VR4302 (R ch)		Repeat recording /playback until the playback level of 315Hz is − 25.2dBV ± 0.5dBV.	(REC level adjustment)
3		REC PAUSE	Inputs 10kHz to input terminal. Set the function to CD. Set test tape STD-631.	Input signal level		Set the input signal to be − 25.2dBV.	
4		REC → PLAY	Record and playback the test tape STD-631.	AF assy VR4351 (L ch) VR4352 (R ch)		Repeat recording /playback until the playback level of 10kHz is − 25.2dBV ± 0.5dBV.	(Bias level adjustment)
5	Repeat Steps 1 − 4 until both 10kHz and 315Hz satisfy the standard.						
6	Adjust VR4302 for the R ch also, following the procedure in Steps 1 − 5 above.						

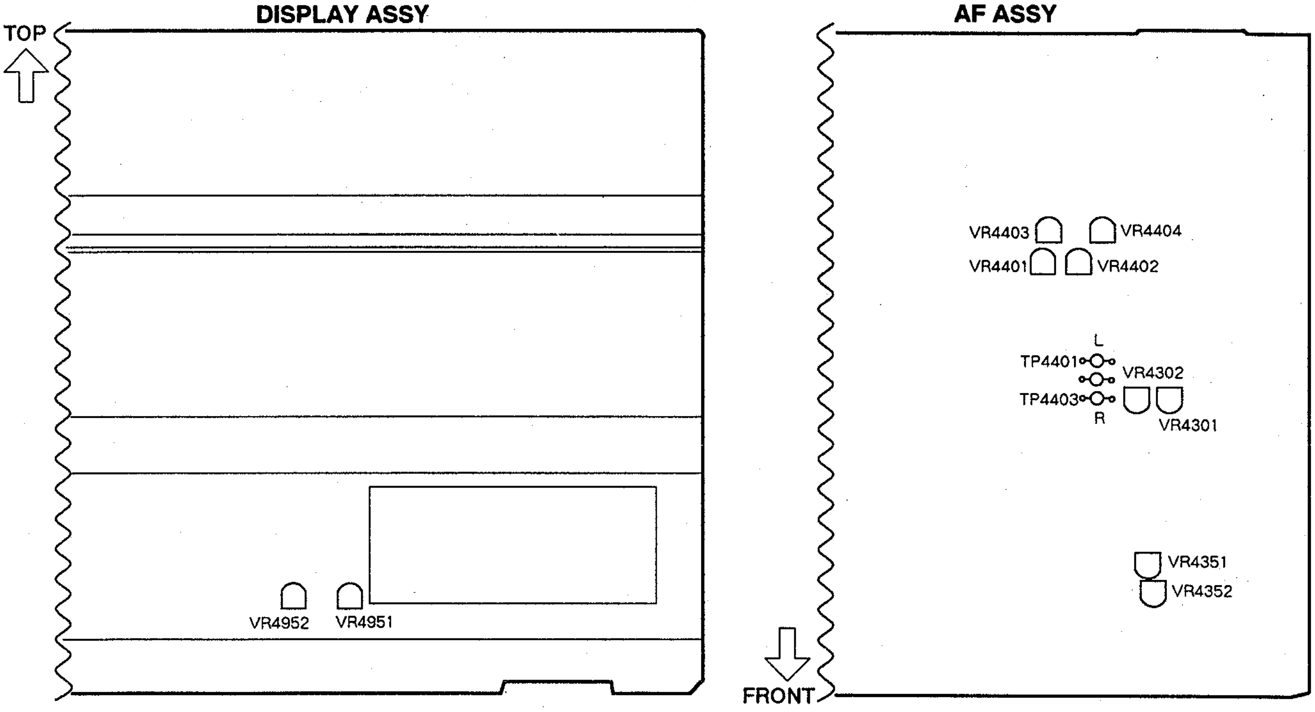


Fig. 19 Adjustment point

6. SCHEMATIC AND PCB CONNECTION DIAGRAMS

NOTE FOR SCHEMATIC DIAGRAMS

(Type 1A)

1. **When ordering service parts, be sure to refer to "PARTS LIST of EXPLODED VIEWS" or "PCB PARTS LIST".**

2. **Since these are basic circuits, some parts of them or the values of some components may be changed for improvement.**

3. **RESISTORS:**
Unit: k:kΩ, M:MΩ, or Ω unless otherwise noted.
Rated power: 1/4W, 1/6W, 1/8W, 1/10W unless otherwise noted.
Tolerance:(F):±1%, (G):±2%, (K):±10%, (M):±20% or ±5% unless otherwise noted.

4. **CAPACITORS:**
Unit : p:pF or μF unless otherwise noted.
Ratings : capacitor (μF) /voltage (V) unless otherwise noted.
Rated voltage : 50V except for electrolytic capacitors.

5. **COILS:**
Unit : m:mH or μH unless otherwise noted.

6. **VOLTAGE AND CURRENT:**
$\boxed{V}$: Signal voltage at rated output.
☐ or ←V :
DC voltage (V) at no input signal unless otherwise noted.
Value in ( ) is DC voltage at rated power.
⇦mA or ←mA :
DC current at no input signal unless otherwise noted.

7. **OTHERS:**
- ⊘ or ⊘ : Adjusting point.
- ◀ : Measurement point.
- The ⚠ mark found on some component parts indicates the importance of the safety factor of the parts. Therefore, when replacing, be sure to use parts of identical designation.

8. **SCH – ☐ ON THE SCHEMATIC DIAGRAM:**
- SCH-☐ indicates the drawing number of the schematic diagram. (SCH stands for schematic diagram.)

9. **SWITCHES** (Underline indicates switch position):
HEADPHONE ASSY
S1201 : SPEAKER A/A+B

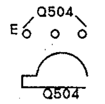
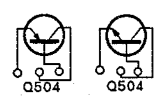
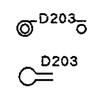
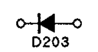
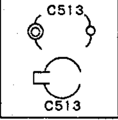
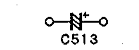
DISPLAY ASSY
S1810 : VIDEO
S1811 : PHONO
S1812 : 1/13
S1813 : 2/14
S1814 : 3/15
S1815 : CD
S1816 : 4/16
S1817 : 5/17
S1818 : TAPE
S1819 : 6/18
S1820 : TUNER
S1821 : S BASS
S1822 : 7/19
S1823 : 8/20
S1824 : 9/21
S1825 : 10/22
S1826 : 11/23
S1827 : 12/24

(RX-590 AND RX-590S ONLY)
S1830 : REAR VOLUME +
S1831 : REAR VOLUME –
S1832 : CENTER VOLUME +
S1833 : CENTER VOLUME –
S1834 : CENTER MODE (NORMAL PHANTOM)
S1835 : DOLBY PRO LOGIC

POWER SW ASSY
S1801 : POWER STANDBY/ON
S1802 : TUNING UP
S1803 : TUNING DOWN
S1804 : AUTO/MONO
S1805 : MEMORY
S1806 : BAND

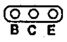
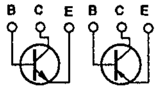
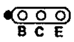
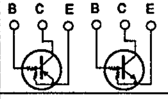
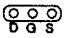
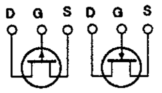
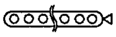
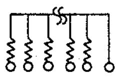
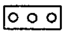
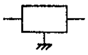
TAPE IND ASSY
S1840 : DOLBY NR
S1841 : HIGH SPEED COPY

NOTE FOR PCB DIAGRAMS:
1. Part numbers in PCB diagrams match those in the schematic diagrams.
2. A comparison between the main parts of PCB and schematic diagrams is shown below.

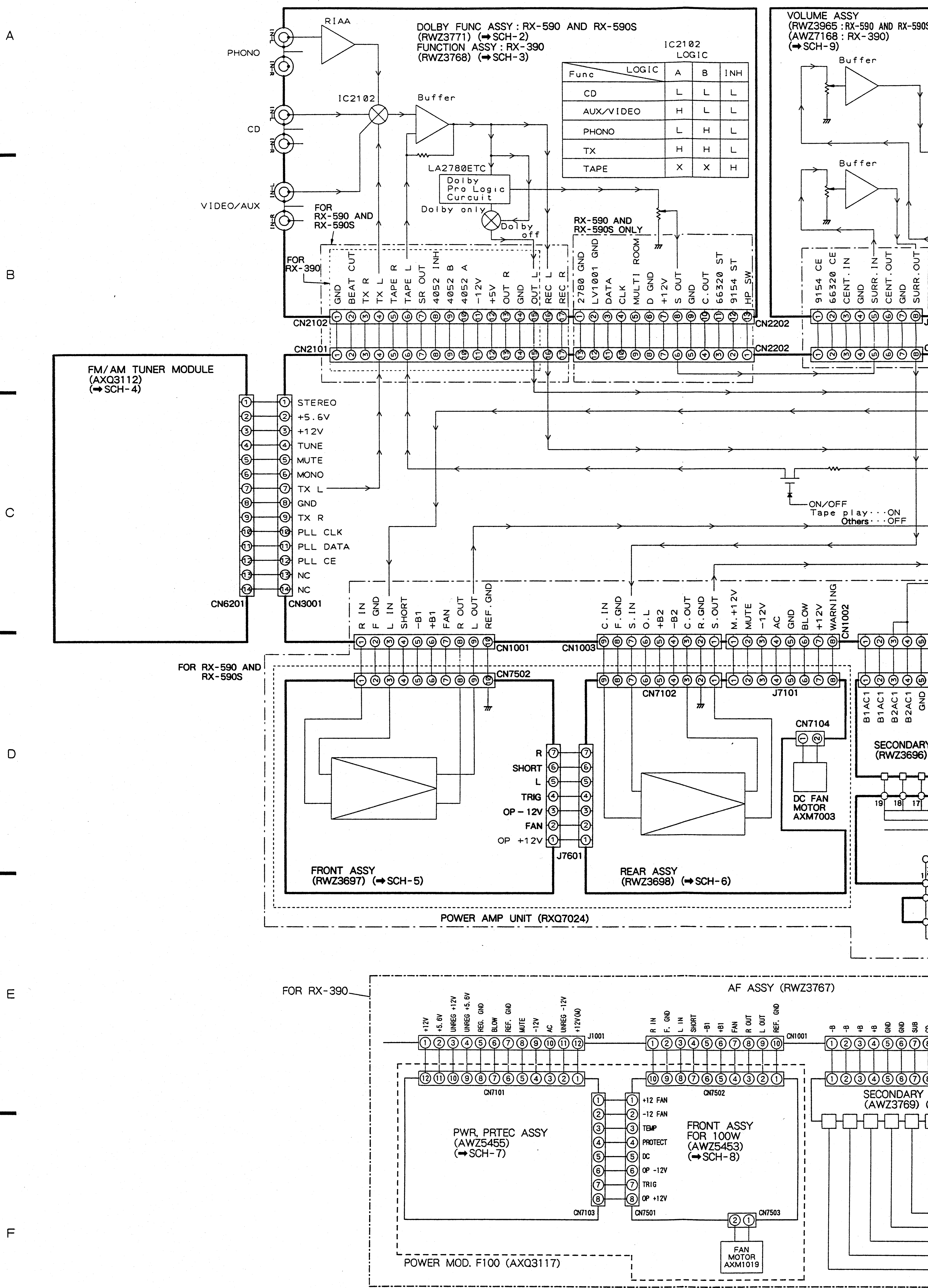
Symbol in PCB Diagrams	Symbol in Schematic Diagrams	Part Name
		Transistor
		Diode
		Capacitor (Polarized)

3. The transistor terminal marked with E or [shows the emitter.
4. The diode terminal marked with ◎ or ⊂ shows cathode side.
5. The capacitor terminal marked with ◎ or [shows negative terminal.

NOTE FOR PCB DIAGRAMS:
1. Part numbers in PCB diagrams match those in the schematic diagrams.
2. A comparison between the main parts of PCB and schematic diagrams is shown below.

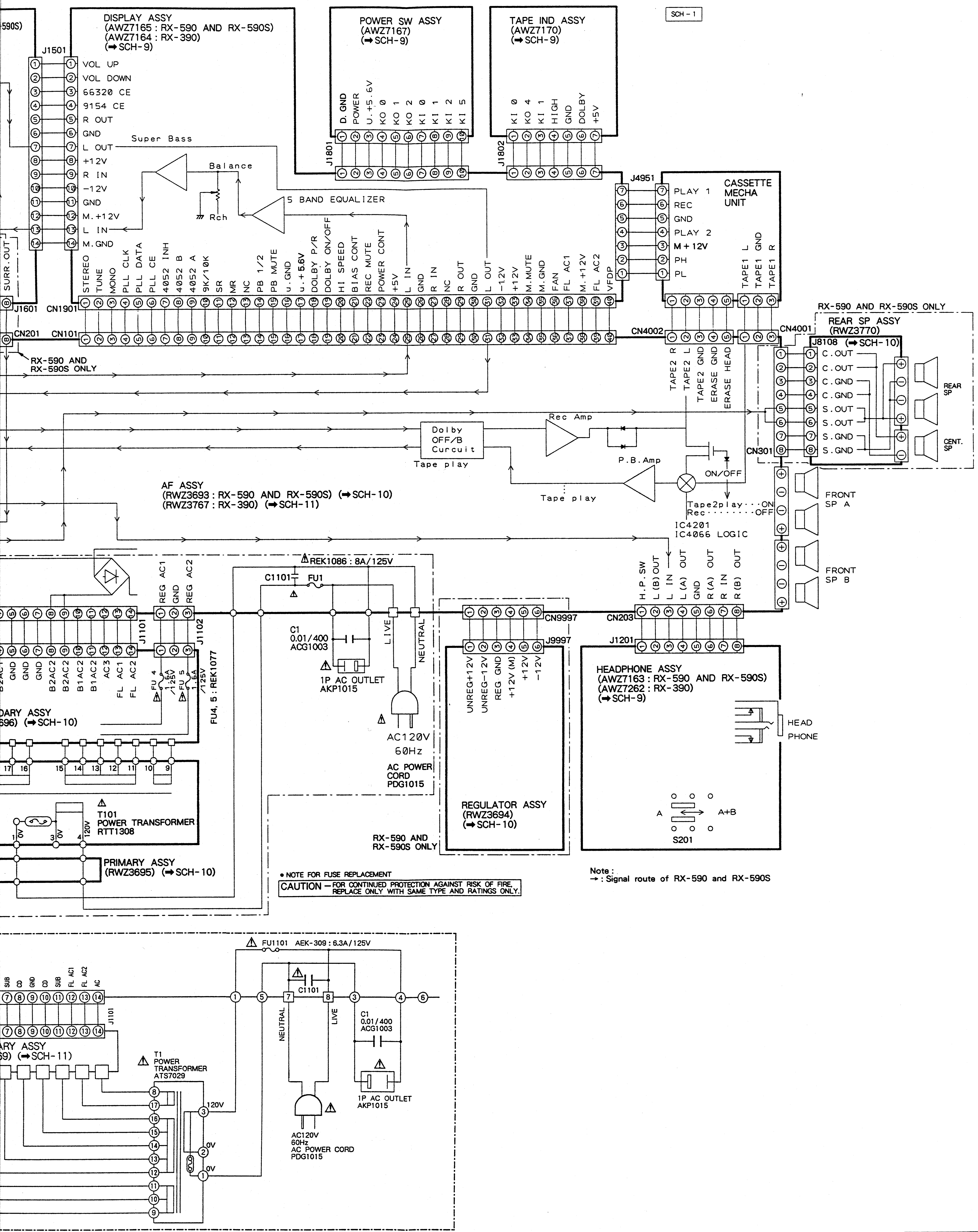
Symbol in PCB Diagrams	Symbol in Schematic Diagrams	Part Name
		Transistor
		Transistor with resistor
		Field effect transistor
		Resistor array
		3-terminal regulator

6.1 OVERALL CONNECTIONS


A
B
C
D
E
F
PHONO
CD
VIDEO/AUX
IN-L
IN-R
RIAA
IC2102
Buffer
LA2780ETC
Dolby Pro Logic Curcuit
Dolby only
Dolby off
FOR RX-590 AND RX-590S
FOR RX-390
DOLBY FUNC ASSY : RX-590 AND RX-590S
(RWZ3771) (➡SCH-2)
FUNCTION ASSY : RX-390
(RWZ3768) (➡SCH-3)
IC2102 LOGIC
RX-590 AND RX-590S ONLY
GND
BEAT CUT
TX R
TX L
TAPE R
TAPE L
SR OUT
4052 INH
4052 B
4052 A
-12V
+5V
OUT R
GND
OUT L
REC L
REC R
2780 GND
LV1001 GND
DATA
CLK
MULTI ROOM
D GND
+12V
S OUT
GND
C.OUT
66320 ST
9154 ST
HP SW
CN2102
CN2101
CN2202
VOLUME ASSY
(RWZ3965 : RX-590 AND RX-590S)
(AWZ7168 : RX-390)
(➡SCH-9)
Buffer
9154 CE
66320 CE
CENT. IN
GND
SURR. IN
CENT. OUT
GND
SURR. OUT
FM/AM TUNER MODULE
(AXQ3112)
(➡SCH-4)
STEREO
+5.6V
+12V
TUNE
MUTE
MONO
TX L
GND
TX R
PLL CLK
PLL DATA
PLL CE
NC
NC
CN6201
CN3001
ON/OFF
Tape play···ON
Others···OFF
R IN
F GND
L IN
SHORT
-B1
+B1
FAN
R OUT
L OUT
REF. GND
CN1001
C. IN
F. GND
S. IN
O. L
+B2
-B2
C. OUT
R. GND
S. OUT
M. +12V
MUTE
-12V
AC
GND
BLOW
+12V
WARNING
CN1002
CN1003
FOR RX-590 AND RX-590S
CN7502
CN7102
J7101
CN7104
DC FAN MOTOR AXM7003
R
SHORT
L
TRIG
OP -12V
FAN
OP +12V
J7601
FRONT ASSY
(RWZ3697) (➡SCH-5)
REAR ASSY
(RWZ3698) (➡SCH-6)
POWER AMP UNIT (RXQ7024)
B1AC1
B1AC1
B2AC1
B2AC1
GND
SECONDARY
(RWZ3696)
19 18 17
FOR RX-390
AF ASSY (RWZ3767)
+12V
+5.6V
UNREG +12V
UNREG +5.6V
REG. GND
BLOW
REF. GND
MUTE
-12V
AC
UNREG -12V
+12V(A)
J1001
R IN
F. GND
L IN
SHORT
-B1
+B1
FAN
R OUT
L OUT
REF. GND
CN1001
-B
-B
+B
+B
GND
GND
SUB
CN7101
CN7502
PWR, PRTEC ASSY
(AWZ5455)
(➡SCH-7)
+12 FAN
-12 FAN
TEMP
PROTECT
DC
OP -12V
TRIG
OP +12V
FRONT ASSY
FOR 100W
(AWZ5453)
(➡SCH-8)
CN7103
CN7501
CN7503
FAN MOTOR AXM1019
POWER MOD. F100 (AXQ3117)
SECONDARY
(AWZ3769)

Func \ LOGIC	A	B	INH
CD	L	L	L
AUX/VIDEO	H	L	L
PHONO	L	H	L
TX	H	H	L
TAPE	X	X	H

SCH-1 OVERALL CONNECTIONS


SCH - 1
590S)
DISPLAY ASSY
(AWZ7165 : RX-590 AND RX-590S)
(AWZ7164 : RX-390)
(➡SCH-9)
J1501
VOL UP
VOL DOWN
66320 CE
9154 CE
R OUT
GND
L OUT
+12V
R IN
-12V
GND
M.+12V
L IN
M.GND
Super Bass
Balance
Rch
5 BAND EQUALIZER
SURR.OUT
J1601
CN1901
CN201
CN101
STEREO
TUNE
MONO
PLL CLK
PLL DATA
PLL CE
4052 INH
4052 B
4052 A
9K/10K
SR
MR
NC
PB 1/2
PB MUTE
u.GND
u.+5.6V
DOLBY P/R
DOLBY ON/OFF
HI SPEED
BIAS CONT
REC MUTE
POWER CONT
+5V
L IN
GND
R IN
NC
R OUT
GND
L OUT
-12V
+12V
M.MUTE
M.GND
FAN
FL AC1
M.+12V
FL AC2
VFDP
RX-590 AND
RX-590S ONLY
POWER SW ASSY
(AWZ7167)
(➡SCH-9)
D.GND
POWER
U.+5.6V
KO 0
KO 1
KO 2
KI 0
KI 1
KI 2
KI 5
J1801
TAPE IND ASSY
(AWZ7170)
(➡SCH-9)
KI 0
KO 4
KI 1
HIGH
GND
DOLBY
+5V
J1802
J4951
CASSETTE
MECHA
UNIT
PLAY 1
REC
GND
PLAY 2
M+12V
PH
PL
TAPE1 L
TAPE1 GND
TAPE1 R
CN4002
CN4001
TAPE2 R
TAPE2 L
TAPE2 GND
ERASE GND
ERASE HEAD
RX-590 AND RX-590S ONLY
REAR SP ASSY
(RWZ3770)
J8108 (➡SCH-10)
C.OUT
C.OUT
C.GND
C.GND
S.OUT
S.OUT
S.GND
S.GND
CN301
REAR SP
CENT. SP
Rec Amp
Dolby
OFF/B
Curcuit
Tape play
P.B.Amp
ON/OFF
Tape play
Tape2play···ON
Rec·········OFF
IC4201
IC4066 LOGIC
FRONT
SP A
FRONT
SP B
AF ASSY
(RWZ3693 : RX-590 AND RX-590S) (➡SCH-10)
(RWZ3767 : RX-390) (➡SCH-11)
REG AC1
GND
REG AC2
J1101
J1102
B2AC1
GND
GND
GND
B2AC2
B2AC2
B1AC2
B1AC2
AC3
FL AC1
FL AC2
FU 4 1.6A /125V
FU 5 1.6A /125V
FU4, 5 : REK1077
DARY ASSY
396) (➡SCH-10)
REK1086 : 8A/125V
C1101
FU1
C1
0.01/400
ACG1003
LIVE
NEUTRAL
1P AC OUTLET
AKP1015
AC120V
60Hz
AC POWER
CORD
PDG1015
T101
POWER TRANSFORMER
RTT1308
0V
0V
120V
PRIMARY ASSY
(RWZ3695) (➡SCH-10)
CN9997
J9997
UNREG+12V
UNREG-12V
REG GND
+12V (M)
+12V
-12V
REGULATOR ASSY
(RWZ3694)
(➡SCH-10)
RX-590 AND
RX-590S ONLY
CN203
J1201
H.P.SW
L (B) OUT
L IN
L (A) OUT
GND
R (A) OUT
R IN
R (B) OUT
HEADPHONE ASSY
(AWZ7163 : RX-590 AND RX-590S)
(AWZ7262 : RX-390)
(➡SCH-9)
HEAD
PHONE
A
A+B
S201
FU1101 AEK-309 : 6.3A/125V
SUB
CD
GND
CD
SUB
FL AC1
FL AC2
AC
J1101
C1101
NEUTRAL
LIVE
C1
0.01/400
ACG1003
1P AC OUTLET
AKP1015
AC120V
60Hz
AC POWER CORD
PDG1015
ARY ASSY
69) (➡SCH-11)
T1
POWER
TRANSFORMER
ATS7029
120V
0V
0V

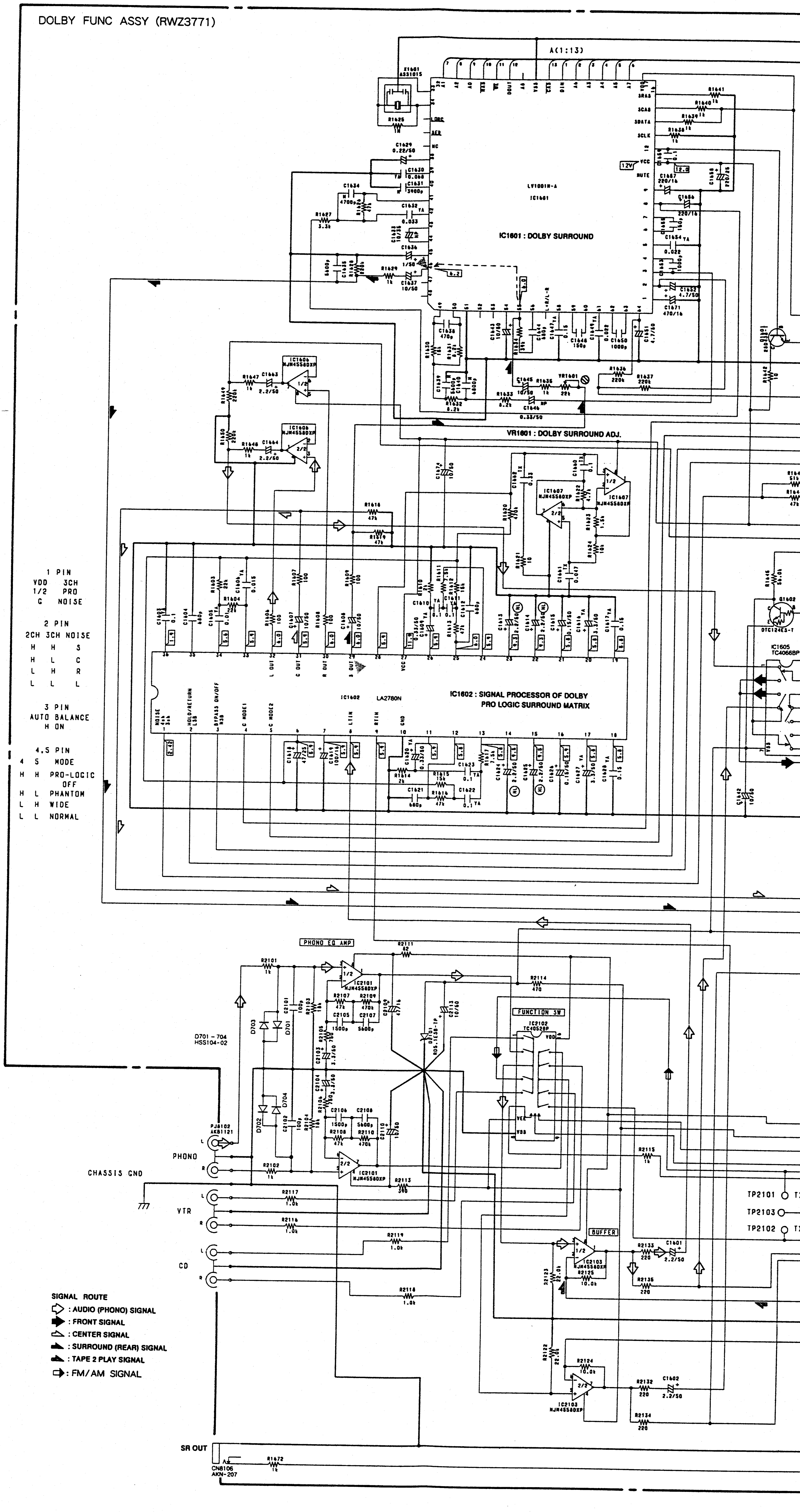
• NOTE FOR FUSE REPLACEMENT

CAUTION – FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE AND RATINGS ONLY.

Note :
→ : Signal route of RX-590 and RX-590S

OVERALL CONNECTIONS **SCH-1**

6.2 DOLBY FUNC ASSY (RX-590 AND RX-590S ONLY)


DOLBY FUNC ASSY (RWZ3771)
A(1:13)
X1601 A331015
IC1601 : DOLBY SURROUND
LV1001N-A
IC1601
VR1601 : DOLBY SURROUND ADJ.
IC1606 NJM4558DXP
IC1607 NJM4558DXP
IC1602 LA2780N
IC1602 : SIGNAL PROCESSOR OF DOLBY PRO LOGIC SURROUND MATRIX
IC1605 TC4066BP
Q1602 DTC124ES-T
PHONO EQ AMP
IC2101 NJM4558DXP
D701 - 704 HSS104-02
FUNCTION SW
IC2102 TC4052BP
BUFFER
IC2103 NJM4558DXP
PJ8102 AKB1121
PHONO
CHASSIS GND
VTR
CD
SR OUT
CN8106 AKN-207
TP2101
TP2103
TP2102

1 PIN
VDD 3CH
1/2 PRO
G NOISE

2 PIN

2CH	3CH	NOISE
H	H	S
H	L	C
L	H	R
L	L	L

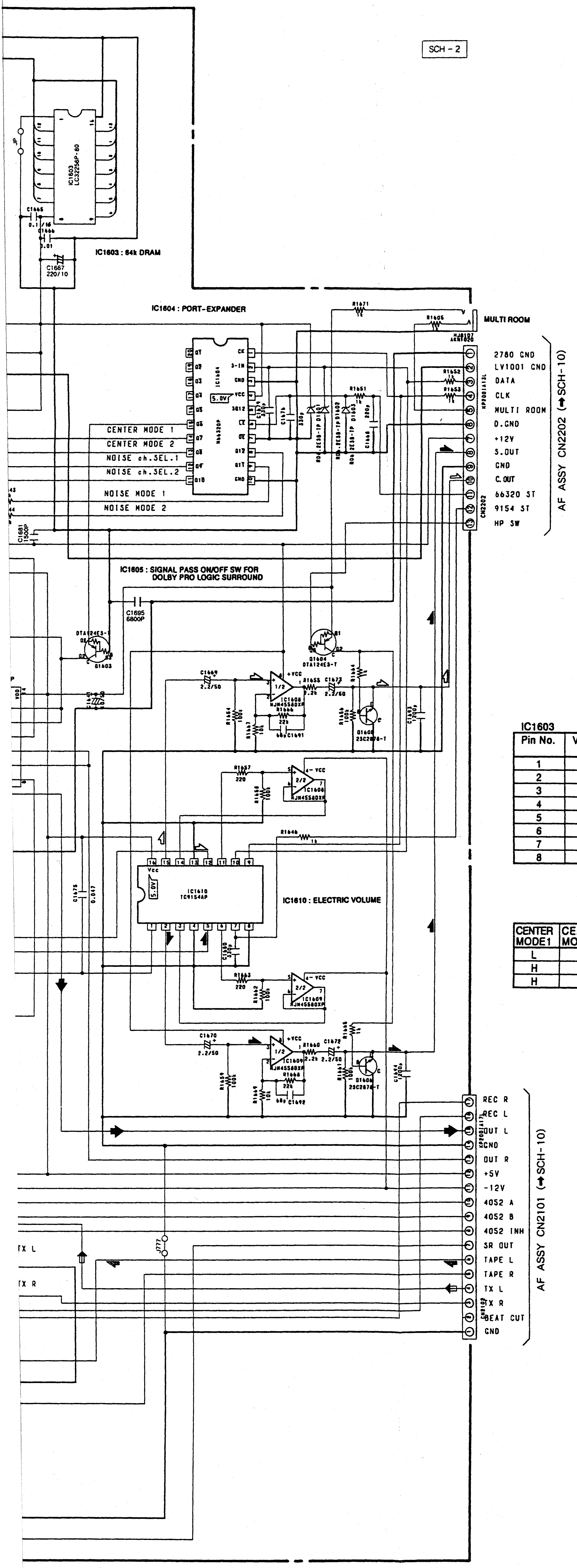
3 PIN
AUTO BALANCE
H ON

4,5 PIN

4	5	MODE
H	H	PRO-LOGIC OFF
H	L	PHANTOM
L	H	WIDE
L	L	NORMAL

SIGNAL ROUTE
- ⇨ : AUDIO (PHONO) SIGNAL
- ➡ : FRONT SIGNAL
- △ : CENTER SIGNAL
- ▲ : SURROUND (REAR) SIGNAL
- ▲ : TAPE 2 PLAY SIGNAL
- ⇨ : FM/AM SIGNAL

SCH-2 DOLBY FUNC ASSY (RX-590 AND RX-590S ONLY)


SCH - 2
IC1603
LC3225P-80
JP
C1665
0.1/16
C1666
0.01
C1667
220/10
IC1603 : 64k DRAM
IC1604 : PORT-EXPANDER
R1671
R1605
MULTI ROOM
CENTER MODE 1
CENTER MODE 2
NOISE ch.SEL.1
NOISE ch.SEL.2
NOISE MODE 1
NOISE MODE 2
5.0V
2780 GND
LV1001 GND
DATA
CLK
MULTI ROOM
D.GND
+12V
S.OUT
GND
C.OUT
66320 ST
9154 ST
HP SW
AF ASSY CN2202 (➡SCH-10)
CN2202
C1681
1500P
IC1605 : SIGNAL PASS ON/OFF SW FOR DOLBY PRO LOGIC SURROUND
C1695
6800P
DTA124ES-T
Q1603
Q1604
DTA124ES-T
C1669
2.2/50
IC1608
NJM4558DXP
R1655
C1673
2.2/50
Q1606
2SC2878-T
C1691
R1657
220
IC1608
NJM4558DXP
R1646
IC1610
TC9154AP
IC1610 : ELECTRIC VOLUME
5.0V
Vcc
C1675
0.047
R1663
220
IC1609
NJM4558DXP
C1670
2.2/50
R1660
C1672
2.2/50
IC1609
NJM4558DXP
Q1605
2SC2878-T
C1692
J777
REC R
REC L
OUT L
GND
OUT R
+5V
-12V
4052 A
4052 B
4052 INH
SR OUT
TAPE L
TAPE R
TX L
TX R
BEAT CUT
GND
AF ASSY CN2101 (➡SCH-10)
TX L
TX R

IC1603

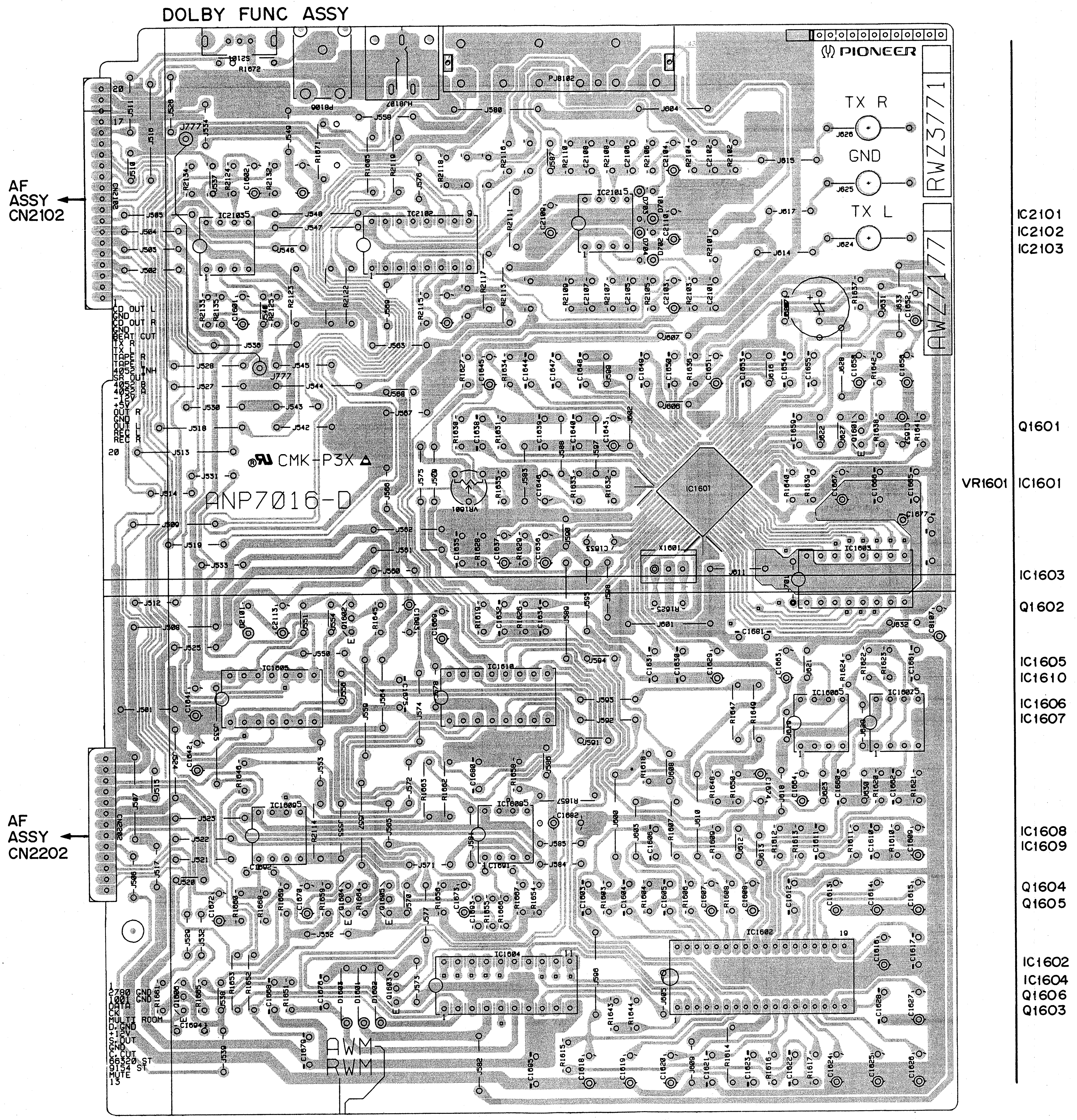
Pin No.	Voltage (V)	Pin No.	Voltage (V)
1		9	1.3
2	2.6	10	2.0
3	4.2	11	2.4
4	1.1	12	2.2
5	2.3	13	2.1
6	2.0	14	2.1
7	1.9	15	2.8
8	5.0	16	

CENTER MODE1	CENTER MODE2	
L	L	NORMAL
H	L	PHANTOM
H	H	OFF

DOLBY FUNC ASSY
(RX-590 AND
RX-590S ONLY)

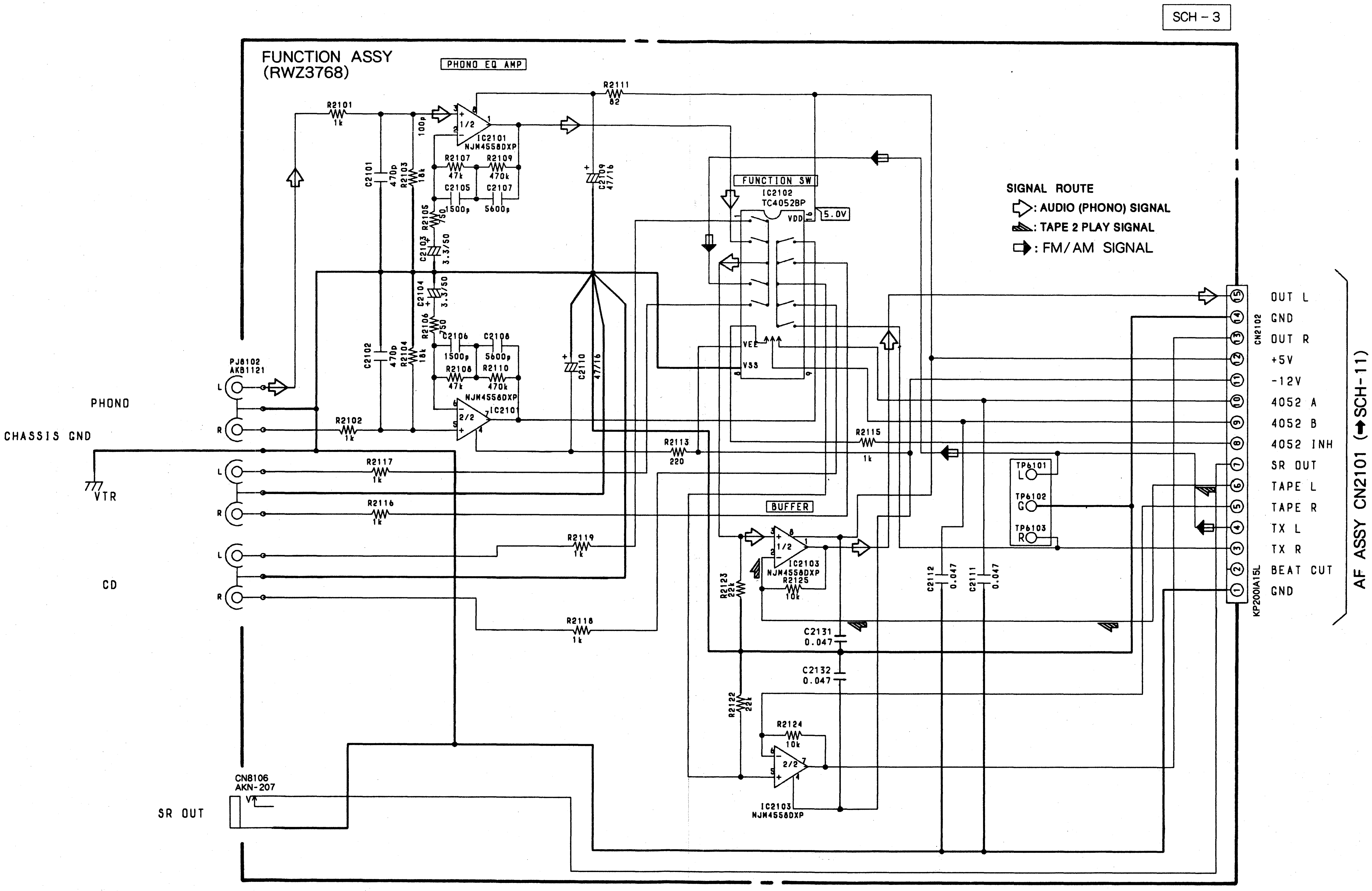
SCH-2

PCB – 1

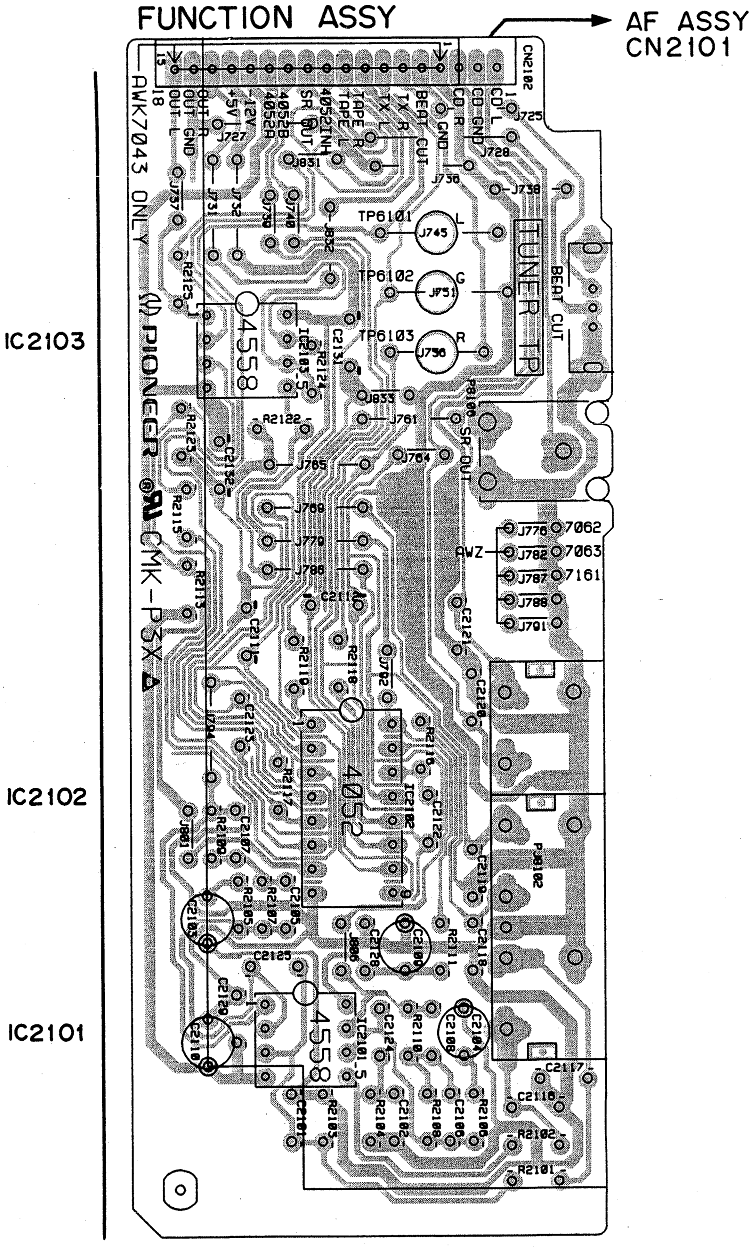

DOLBY FUNC ASSY
AF ASSY CN2102
AF ASSY CN2202
PIONEER
TX R
GND
TX L
RWZ3771
ANP7016-D
CMK-P3X
AWM
RWM
IC1601
VR1601
IC2101
IC2102
IC2103
Q1601
IC1601
IC1603
Q1602
IC1605
IC1610
IC1606
IC1607
IC1608
IC1609
Q1604
Q1605
IC1602
IC1604
Q1606
Q1603

- This diagram is viewed from the mounted parts side.
- The parts mounted on this PCB include all necessary parts for several destinations.
For further information for respective destinations, be sure to check with the schematic diagram.

6.3 FUNCTION ASSY (RX-390 ONLY)


SCH – 3
FUNCTION ASSY
(RWZ3768)
PHONO EQ AMP
FUNCTION SW
BUFFER
SIGNAL ROUTE
⇨: AUDIO (PHONO) SIGNAL
: TAPE 2 PLAY SIGNAL
➡: FM/AM SIGNAL
R2101 1k
R2102 1k
R2103 18k
R2104 18k
R2105 750
R2106 750
R2107 47k
R2108 47k
R2109 470k
R2110 470k
R2111 82
R2113 220
R2115 1k
R2116 1k
R2117 1k
R2118 1k
R2119 1k
R2122 22k
R2123 22k
R2124 10k
R2125 10k
C2101 470p
C2102 470p
100p
C2103 3.3/50
C2104 3.3/50
C2105 1500p
C2106 1500p
C2107 5600p
C2108 5600p
C2109 47/16
C2110 47/16
C2111 0.047
C2112 0.047
C2131 0.047
C2132 0.047
IC2101 NJM4558DXP
IC2102 TC4052BP
IC2103 NJM4558DXP
1/2
2/2
VDD
5.0V
VEE
VSS
PJ8102 AKB1121
PHONO
CHASSIS GND
VTR
CD
L
R
CN8106 AKN-207
SR OUT
TP6101 L
TP6102 G
TP6103 R
CN2102
KP200IA15L
OUT L
GND
OUT R
+5V
-12V
4052 A
4052 B
4052 INH
SR OUT
TAPE L
TAPE R
TX L
TX R
BEAT CUT
GND
AF ASSY CN2101 (➡SCH-11)

PCB－2

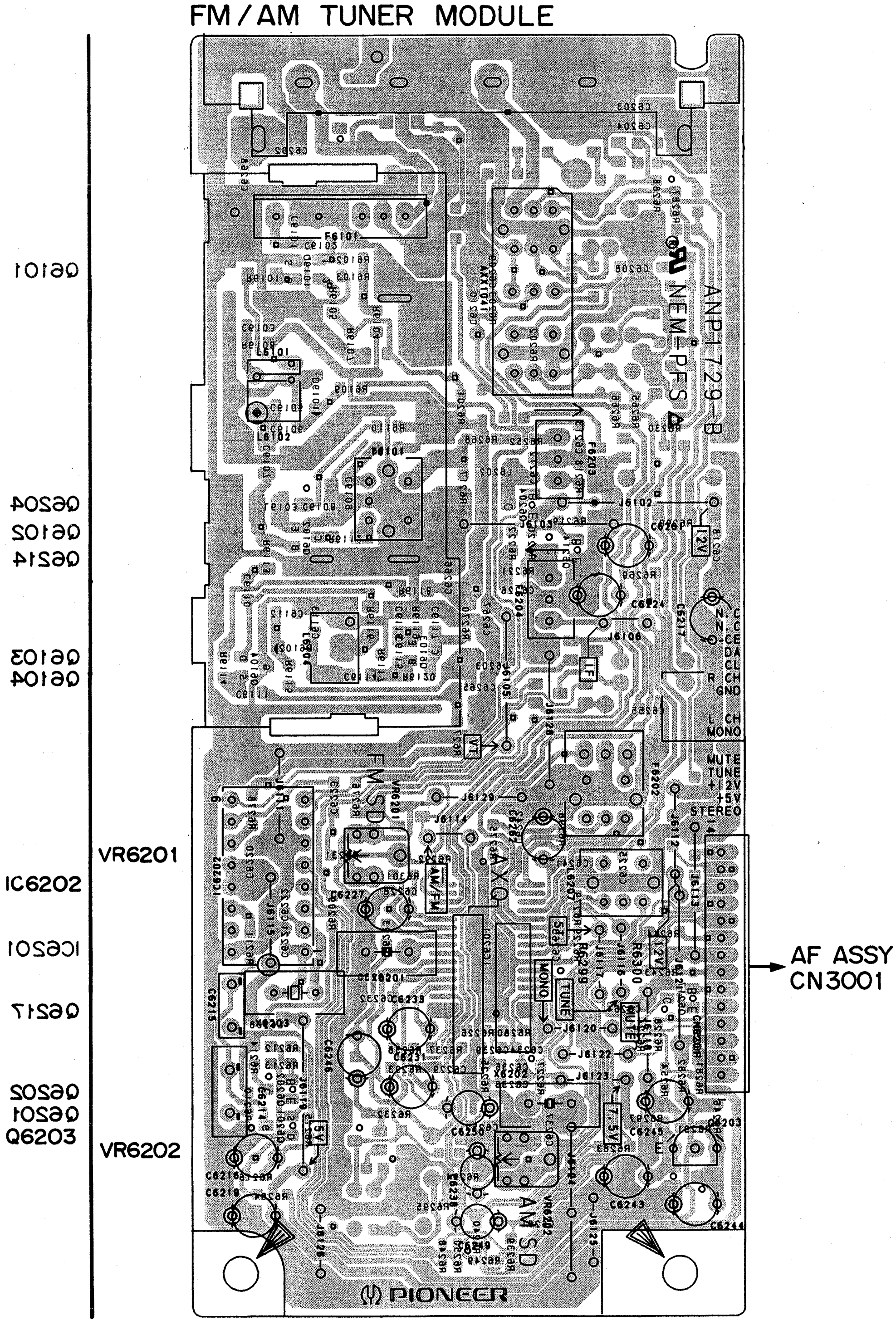

FUNCTION ASSY
AF ASSY
CN2101
CN2102
IC2103
IC2102
IC2101
15
1
18
OUT L
OUT GND
OUT R
+5V
-12V
4052A
4052B
SR OUT
4052INH
TAPE L
TAPE R
TX L
TX R
BEAT CUT
GND
CD R
CD GND
CD L
AWK7043 ONLY
PIONEER
CMK-P3X
J725
J727
J728
J730
J738
J831
J737
J731
J732
J739
J740
J832
TP6101
TP6102
TP6103
L
G
R
J745
J751
J756
TUNER TP
BEAT CUT
4558
IC2103
4052
IC2102
IC2101
SR OUT
AWZ
7062
7063
7161
J776
J782
J787
J788
J791
J833
J761
J764
J765
J769
J779
J786
J792
J794
J801
J806
PJ8102
P8100
R2125
R2121
R2122
R2123
R2115
R2113
R2119
R2118
R2116
R2117
R2111
R2110
R2109
R2108
R2107
R2106
R2105
R2104
R2103
R2102
R2101
C2131
C2132
C2114
C2115
C2121
C2120
C2122
C2119
C2118
C2117
C2116
C2113
C2112
C2111
C2110
C2109
C2108
C2107
C2106
C2105
C2104
C2103
C2102
C2101
C2125
C2126
C2128
C2124

(ANP7013-F)

- This diagram is viewed from the mounted parts side.
- The parts mounted on this PCB include all necessary parts for several destinations.
For further information for respective destinations, be sure to check with the schematic diagram.

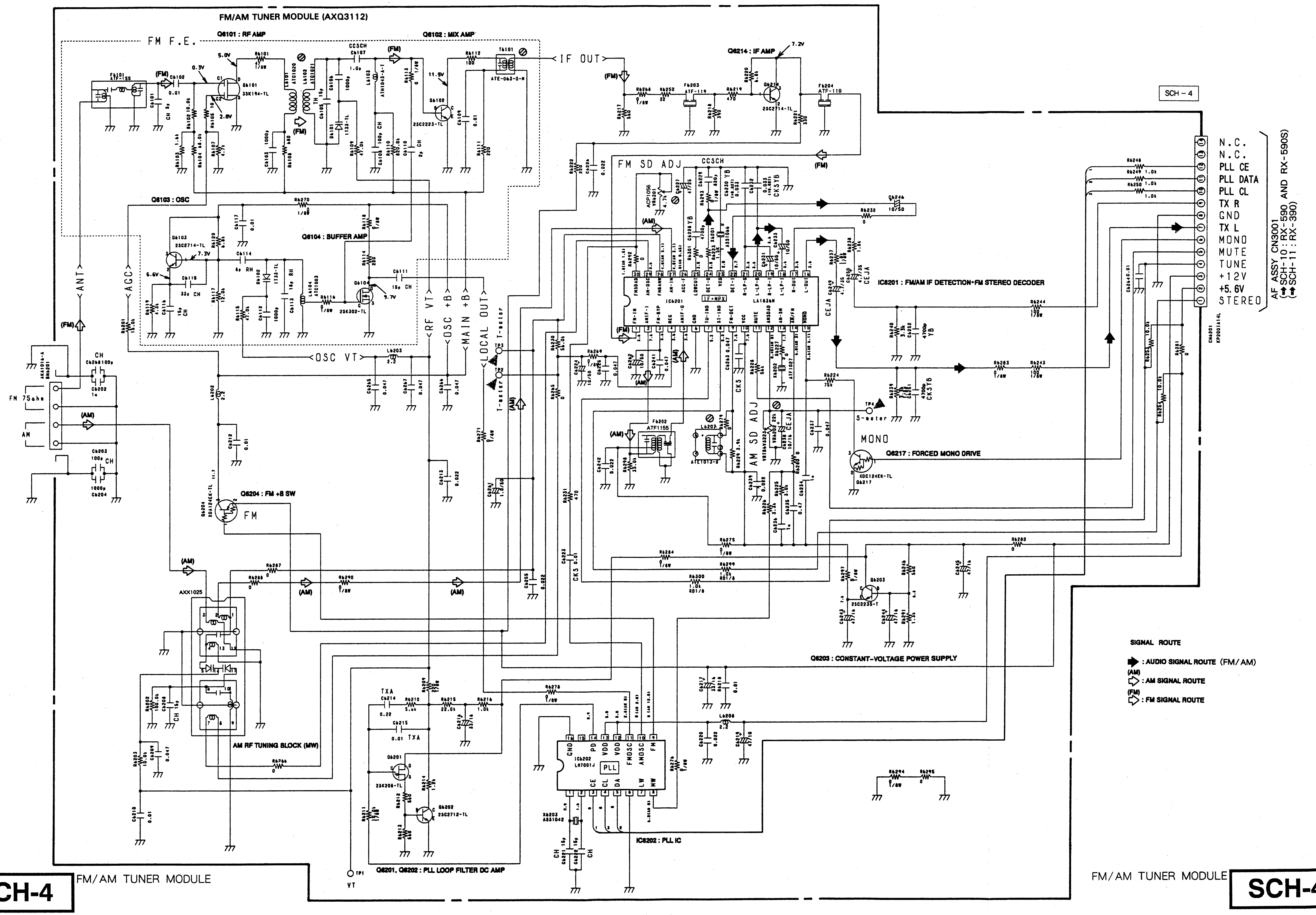
6.4 FM/AM TUNER MODULE

PCB – 3

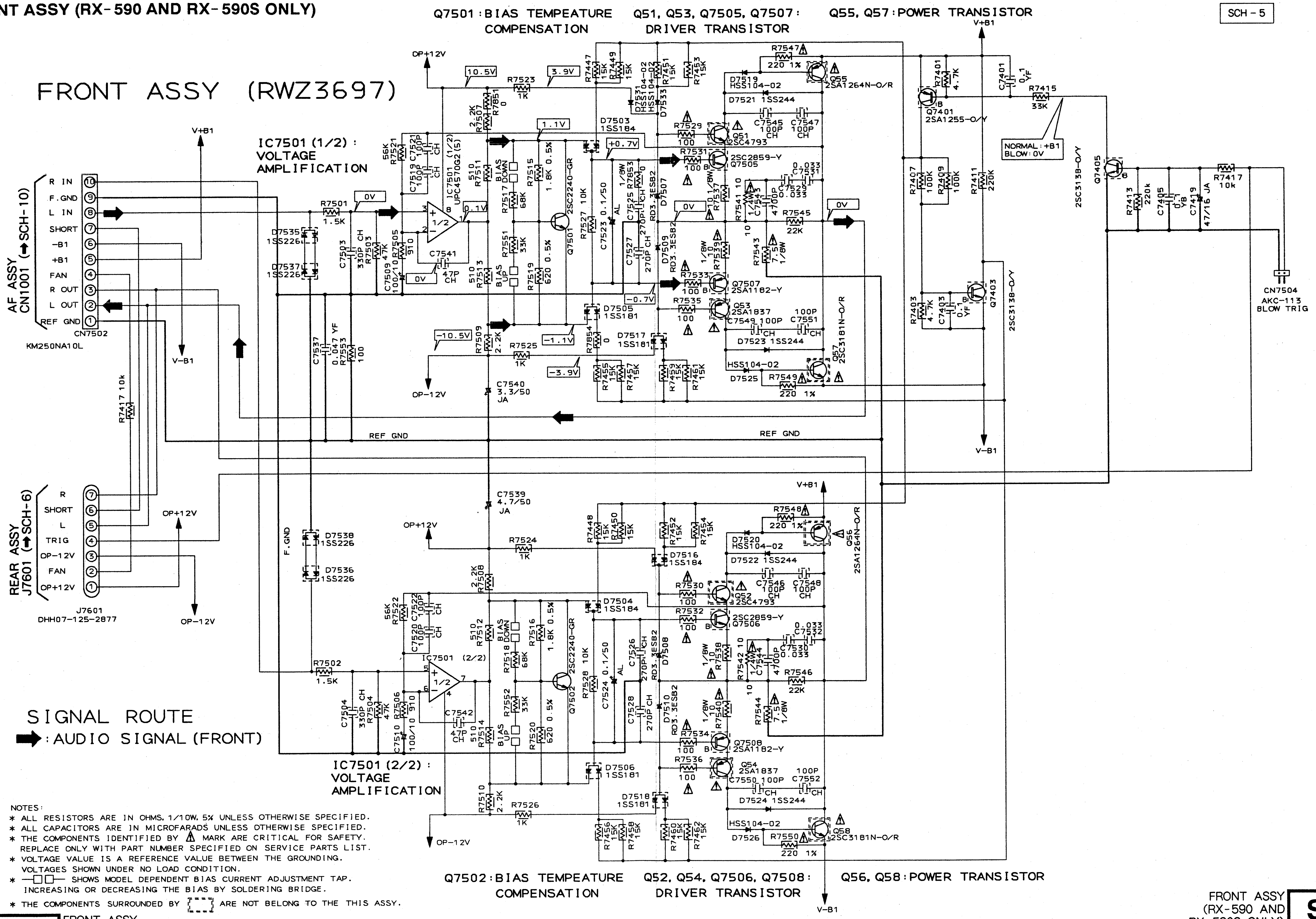

FM / AM TUNER MODULE
Q6101
Q6204
Q6102
Q6214
Q6103
Q6104
VR6201
IC6202
IC6201
Q6217
Q6202
Q6201
Q6203
VR6202
ANP1729-B
NEM-PFS
FM SD
AM SD
N.C
N.C
CE
DA
CL
R CH
GND
L CH
MONO
MUTE
TUNE
+12V
+5V
STEREO
AM/FM
MONO
TUNE
MUTE
AF ASSY
CN3001
PIONEER

(ANP1729-B)

- The parts mounted on this PCB include all necessary parts for several destinations.
For further information for respective destinations, be sure to check with the schematic diagram.

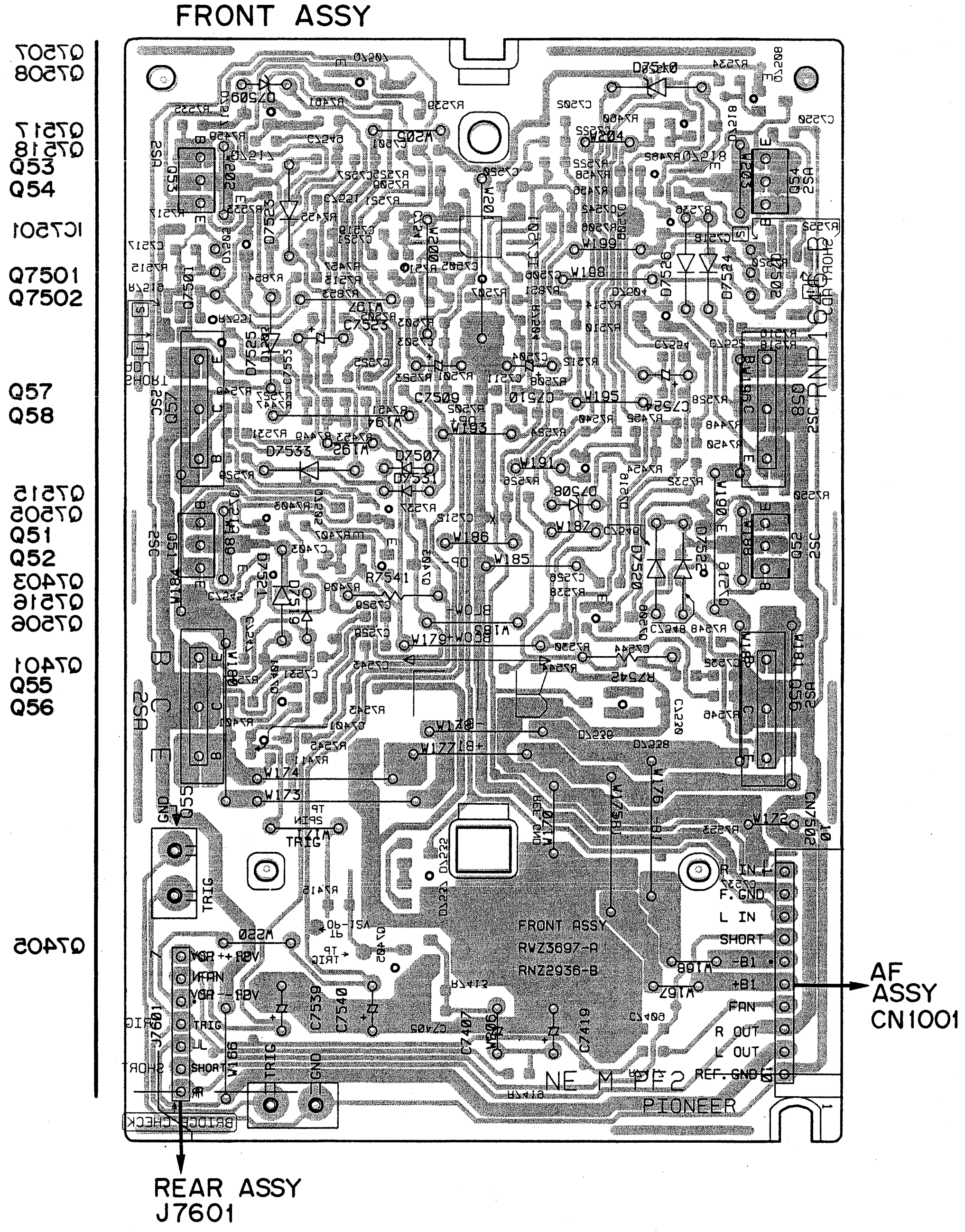

FM/AM TUNER MODULE (AXQ3112)
FM F.E.
Q6101 : RF AMP
Q6102 : MIX AMP
Q6103 : OSC
Q6104 : BUFFER AMP
Q6214 : IF AMP
<IF OUT>
<ANT>
<ACC>
<RF VT>
<OSC +B>
<MAIN +B>
<LOCAL OUT>
<OSC VT>
T-meter
S-meter
FM SD ADJ
AM SD ADJ
CCSCH
IC6201 : FM/AM IF DETECTION•FM STEREO DECODER
LA1836N
MONO
Q6217 : FORCED MONO DRIVE
Q6204 : FM +B SW
FM
FM 75ohm
AM
AXX1025
AM RF TUNING BLOCK (MW)
Q6203 : CONSTANT-VOLTAGE POWER SUPPLY
Q6201, Q6202 : PLL LOOP FILTER DC AMP
IC6202 : PLL IC
LM7001J
PLL
TXA
TP1
VT
TP2
TP3
TP4
SCH-4
N.C.
N.C.
PLL CE
PLL DATA
PLL CL
TX R
GND
TX L
MONO
MUTE
TUNE
+12V
+5.6V
STEREO
AF ASSY CN3001
(→SCH-10 : RX-590 AND RX-590S)
(→SCH-11 : RX-390)
SIGNAL ROUTE
: AUDIO SIGNAL ROUTE (FM/AM)
(AM) : AM SIGNAL ROUTE
(FM) : FM SIGNAL ROUTE

6.5 FRONT ASSY (RX-590 AND RX-590S ONLY)


Q7501 : BIAS TEMPEATURE COMPENSATION
Q51, Q53, Q7505, Q7507 : DRIVER TRANSISTOR
Q55, Q57 : POWER TRANSISTOR
FRONT ASSY (RWZ3697)
IC7501 (1/2) : VOLTAGE AMPLIFICATION
IC7501 (2/2) : VOLTAGE AMPLIFICATION
Q7502 : BIAS TEMPEATURE COMPENSATION
Q52, Q54, Q7506, Q7508 : DRIVER TRANSISTOR
Q56, Q58 : POWER TRANSISTOR
AF ASSY CN1001 (➡SCH-10)
R IN
F.GND
L IN
SHORT
-B1
+B1
FAN
R OUT
L OUT
REF GND
CN7502
KM250NA10L
REAR ASSY J7601 (➡SCH-6)
R
SHORT
L
TRIG
OP-12V
FAN
OP+12V
J7601
DHH07-125-2877
V+B1
V-B1
OP+12V
OP-12V
REF GND
F.GND
10.5V
3.9V
1.1V
+0.7V
0V
-0.7V
-1.1V
-3.9V
-10.5V
R7501 1.5K
R7502 1.5K
D7535 1SS226
D7537 1SS226
D7538 1SS226
D7536 1SS226
C7503 330P CH
C7504 330P CH
R7503 47K
R7504 47K
R7505 910
R7506 910
C7509 100/10
C7510 100/10
C7541 47P CH
C7542 47P CH
C7537 0.047 YF
R7553 100
R7521 56K
R7522 56K
C7519 100P CH
C7521 100P CH
C7520 100P CH
C7522 100P CH
IC7501 (1/2) UPC4570G2(5)
R7507 2.2K
R7508 2.2K
R7509 2.2K
R7510 2.2K
R7511 510
R7512 510
R7513 510
R7514 510
R7851 0
R7523 1K
R7524 1K
R7525 1K
R7526 1K
BIAS DOWN
BIAS UP
R7517 68K
R7518 68K
R7515 1.8K 0.5%
R7516 1.8K 0.5%
R7551 33K
R7552 33K
R7519 620 0.5%
R7520 620 0.5%
Q7501 2SC2240-GR
Q7502 2SC2240-GR
R7527 10K
R7528 10K
C7523 0.1/50 AL
C7524 0.1/50 AL
C7525 270P CH
C7526 270P CH
C7527 270P CH
C7528 270P CH
R7853 1/8W 10
D7507 RD3.3ESB2
D7508 RD3.3ESB2
D7509 RD3.3ESB2
D7510 RD3.3ESB2
C7540 3.3/50 JA
C7539 4.7/50 JA
D7503 1SS184
D7504 1SS184
D7505 1SS181
D7506 1SS181
D7517 1SS181
D7518 1SS181
D7516 1SS184
R7854 0
R7447 15K
R7449 15K
R7451 15K
R7453 15K
R7455 15K
R7457 15K
R7459 15K
R7461 15K
R7448 15K
R7450 15K
R7452 15K
R7454 15K
R7456 15K
R7458 15K
R7460 15K
R7462 15K
D7531 HSS104-02
D7533 HSS104-02
R7529 100
R7530 100
R7531 100
R7532 100
R7533 100
R7534 100
R7535 100
R7536 100
Q51 2SC4793
Q52 2SC4793
Q7505 2SC2859-Y
Q7506 2SC2859-Y
Q7507 2SA1182-Y
Q7508 2SA1182-Y
Q53 2SA1837
Q54 2SA1837
R7537 1/8W 10
R7538 1/8W 10
R7539 1/8W 10
R7540 1/8W 10
R7541 10 1/4W
R7542 10 1/4W
R7543 7.5 1/8W
R7544 7.5 1/8W
C7543 4700P
C7544 4700P
C7529 0.033
C7530 0.033
C7531 0.033
C7532 0.033
R7545 22K
R7546 22K
R7547 220 1%
R7548 220 1%
R7549 220 1%
R7550 220 1%
D7519 HSS104-02
D7520 HSS104-02
D7521 1SS244
D7522 1SS244
D7523 1SS244
D7524 1SS244
D7525 HSS104-02
D7526 HSS104-02
C7545 100P CH
C7546 100P CH
C7547 100P CH
C7548 100P CH
C7549 100P
C7550 100P
C7551 100P CH
C7552 100P CH
Q55 2SA1264N-O/R
Q56 2SA1264N-O/R
Q57 2SC3181N-O/R
Q58 2SC3181N-O/R
R7401 4.7K
R7403 4.7K
Q7401 2SA1255-O/Y
C7401 0.1 YF
C7403 0.1 YF
R7415 33K
NORMAL : +B1
BLOW : 0V
R7407 100K
R7409 100K
R7411 220K
Q7403 2SC3138-O/Y
Q7405 2SC3138-O/Y
R7413 220k
C7405 0.1 YB
C7419 47/16 JA
R7417 10k
R7417 10k
CN7504
AKC-113
BLOW TRIG
SIGNAL ROUTE
➡ : AUDIO SIGNAL (FRONT)

NOTES:
- ＊ ALL RESISTORS ARE IN OHMS, 1/10W, 5% UNLESS OTHERWISE SPECIFIED.
- ＊ ALL CAPACITORS ARE IN MICROFARADS UNLESS OTHERWISE SPECIFIED.
- ＊ THE COMPONENTS IDENTIFIED BY ⚠ MARK ARE CRITICAL FOR SAFETY. REPLACE ONLY WITH PART NUMBER SPECIFIED ON SERVICE PARTS LIST.
- ＊ VOLTAGE VALUE IS A REFERENCE VALUE BETWEEN THE GROUNDING. VOLTAGES SHOWN UNDER NO LOAD CONDITION.
- ＊ —□□— SHOWS MODEL DEPENDENT BIAS CURRENT ADJUSTMENT TAP. INCREASING OR DECREASING THE BIAS BY SOLDERING BRIDGE.
- ＊ THE COMPONENTS SURROUNDED BY ⬚ ARE NOT BELONG TO THE THIS ASSY.

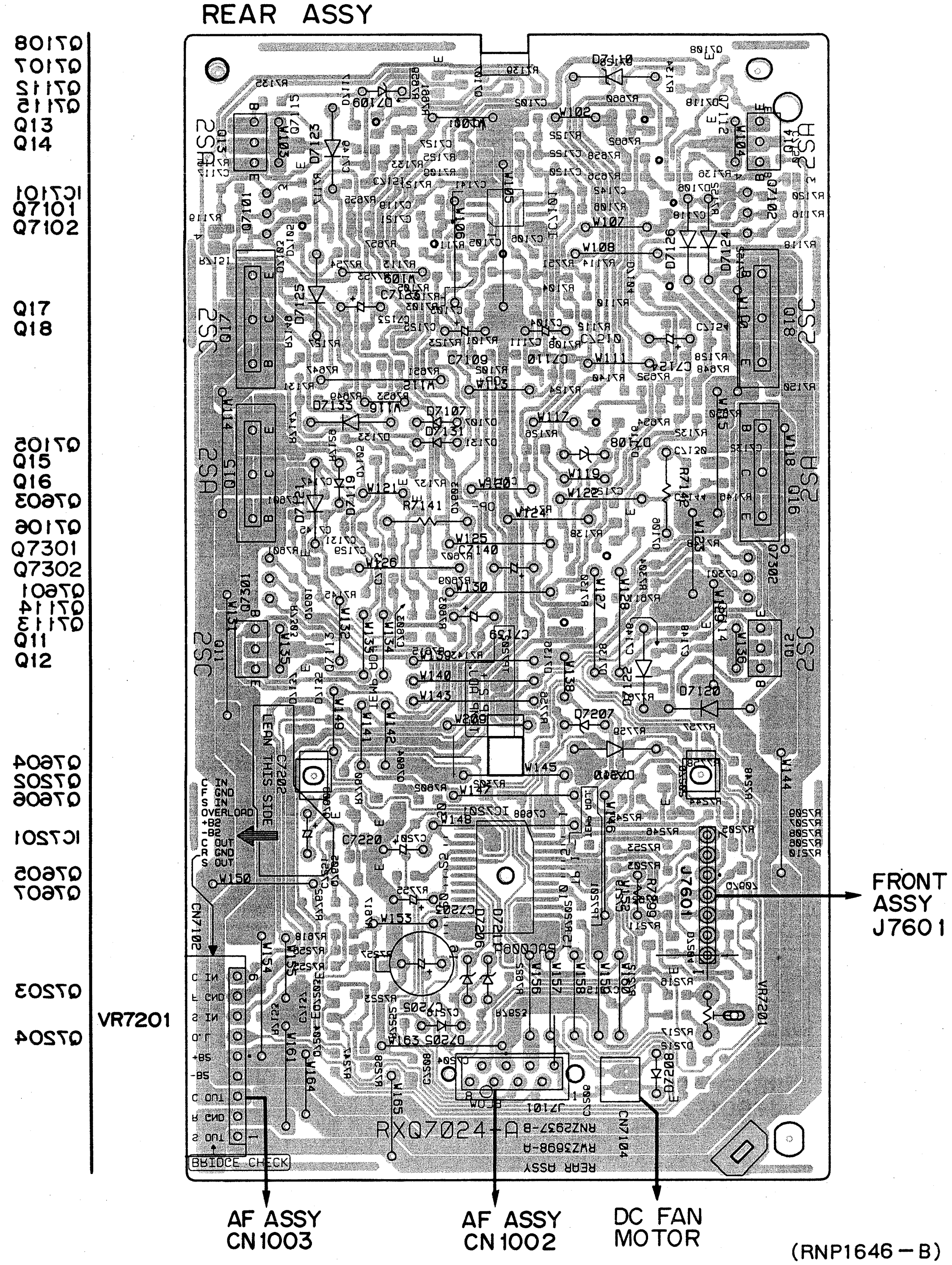
PCB – 4


FRONT ASSY
Q7507
Q7508
Q7517
Q7518
Q53
Q54
IC7501
Q7501
Q7502
Q57
Q58
Q7515
Q7505
Q51
Q52
Q7403
Q7516
Q7506
Q7401
Q55
Q56
Q7405
FRONT ASSY
RWZ3697-A
RNZ2936-B
R IN
F. GND
L IN
SHORT
-B1
+B1
FAN
R OUT
L OUT
REF. GND
AF
ASSY
CN1001
TRIG
GND
SHORT
BRIDGE CHECK
PIONEER
REAR ASSY
J7601

- This diagram is viewed from the mounted parts side.
- The parts mounted on this PCB include all necessary parts for several destinations.
  For further information for respective destinations, be sure to check with the schematic diagram.

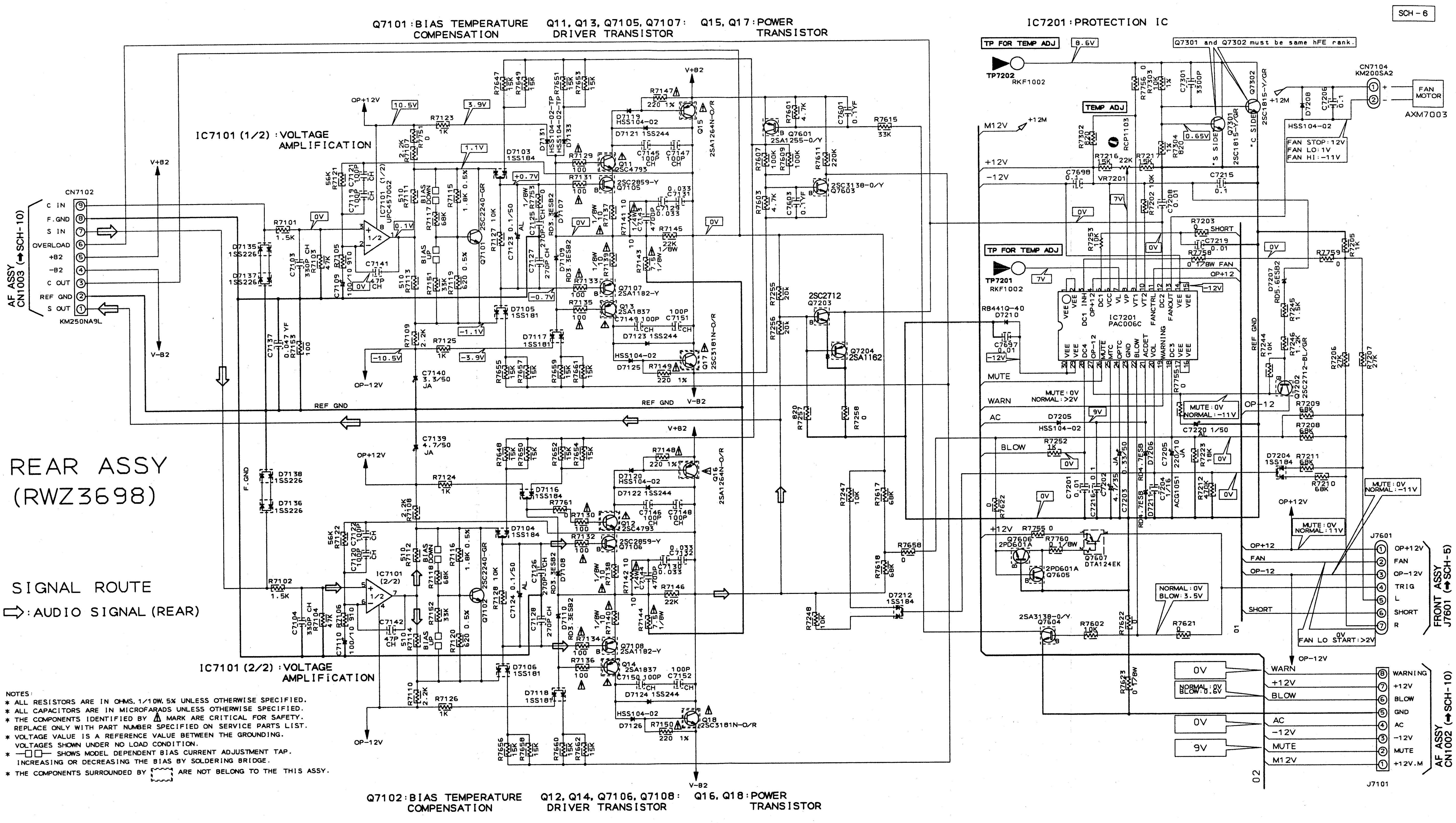
6.6 REAR ASSY (RX-590 AND RX-590S ONLY)

PCB – 5


REAR ASSY
Q13
Q14
Q7101
Q7102
Q17
Q18
Q15
Q16
Q7301
Q7302
Q11
Q12
VR7201
FRONT ASSY J7601
AF ASSY CN1003
AF ASSY CN1002
DC FAN MOTOR
RXQ7024-A
BRIDGE CHECK
LEAN THIS SIDE

(RNP1646 – B)

- This diagram is viewed from the mounted parts side.
- The parts mounted on this PCB include all necessary parts for several destinations.
  For further information for respective destinations, be sure to check with the schematic diagram.

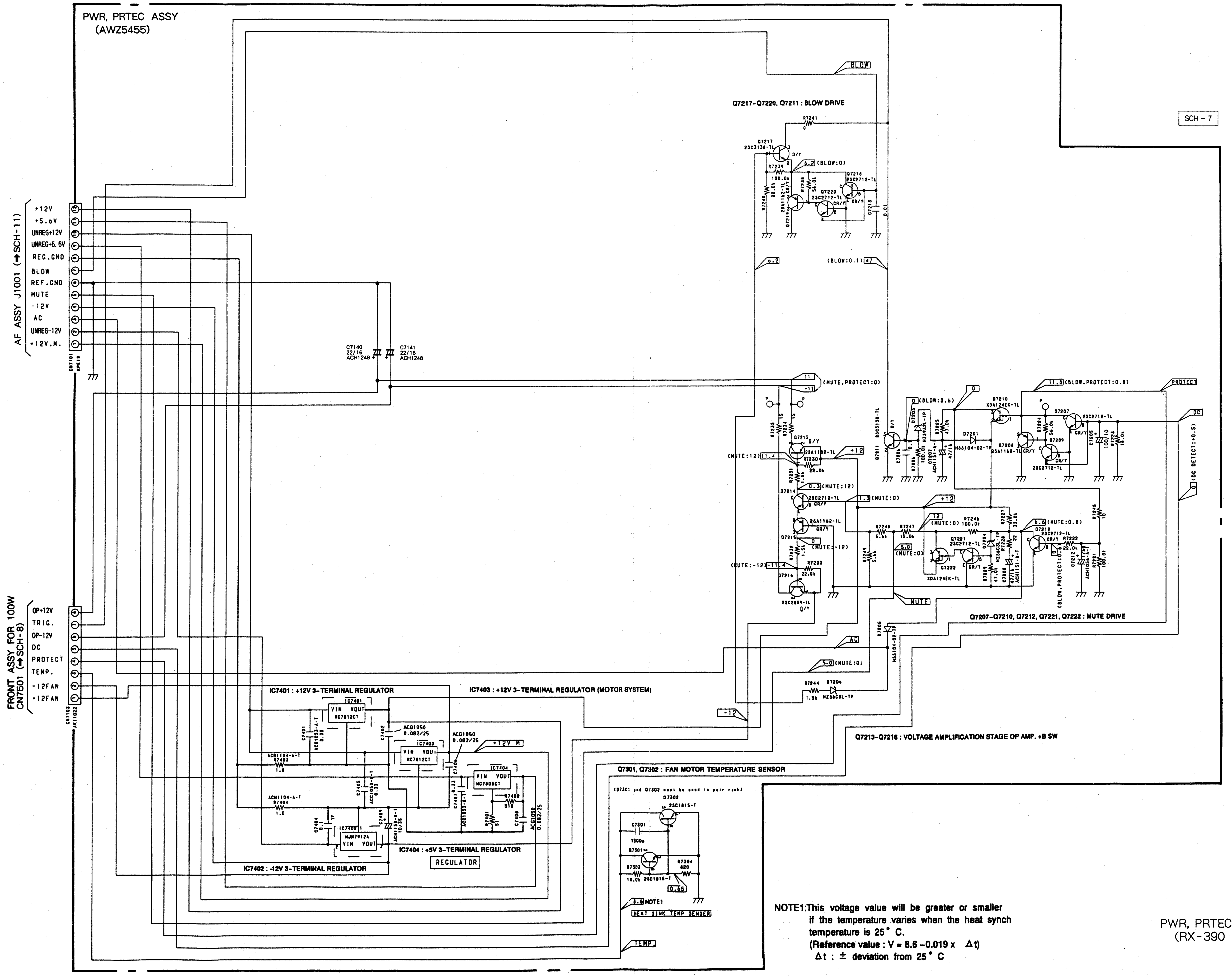

SCH-6
REAR ASSY
(RWZ3698)
SIGNAL ROUTE
⇨ : AUDIO SIGNAL (REAR)
Q7101 : BIAS TEMPERATURE COMPENSATION
Q11, Q13, Q7105, Q7107 : DRIVER TRANSISTOR
Q15, Q17 : POWER TRANSISTOR
IC7101 (1/2) : VOLTAGE AMPLIFICATION
IC7101 (2/2) : VOLTAGE AMPLIFICATION
Q7102 : BIAS TEMPERATURE COMPENSATION
Q12, Q14, Q7106, Q7108 : DRIVER TRANSISTOR
Q16, Q18 : POWER TRANSISTOR
IC7201 : PROTECTION IC
TP FOR TEMP ADJ
TEMP ADJ
Q7301 and Q7302 must be same hFE rank.
CN7102
KM250NA9L
AF ASSY CN1003 (→SCH-10)
C IN
F.GND
S IN
OVERLOAD
+B2
-B2
C OUT
REF GND
S OUT
CN7104 KM200SA2
FAN MOTOR
AXM7003
FAN STOP : 12V
FAN LO : 1V
FAN HI : -11V
J7601
OP+12V
FAN
OP-12V
TRIG
L
SHORT
R
FRONT ASSY J7601 (→SCH-5)
J7101
WARNING
+12V
BLOW
GND
AC
-12V
MUTE
+12V.M
AF ASSY CN1002 (→SCH-10)
MUTE : 0V
NORMAL : -11V
NORMAL : 0V
BLOW : 3.5V
FAN LO START : >2V

NOTES :
- ✱ ALL RESISTORS ARE IN OHMS, 1/10W, 5% UNLESS OTHERWISE SPECIFIED.
- ✱ ALL CAPACITORS ARE IN MICROFARADS UNLESS OTHERWISE SPECIFIED.
- ✱ THE COMPONENTS IDENTIFIED BY ⚠ MARK ARE CRITICAL FOR SAFETY. REPLACE ONLY WITH PART NUMBER SPECIFIED ON SERVICE PARTS LIST.
- ✱ VOLTAGE VALUE IS A REFERENCE VALUE BETWEEN THE GROUNDING. VOLTAGES SHOWN UNDER NO LOAD CONDITION.
- ✱ —□□— SHOWS MODEL DEPENDENT BIAS CURRENT ADJUSTMENT TAP. INCREASING OR DECREASING THE BIAS BY SOLDERING BRIDGE.
- ✱ THE COMPONENTS SURROUNDED BY ⬚ ARE NOT BELONG TO THE THIS ASSY.

SCH-6 REAR ASSY (RX-590 AND RX-590S ONLY)

REAR ASSY (RX-590 AND RX-590S ONLY) **SCH-6**

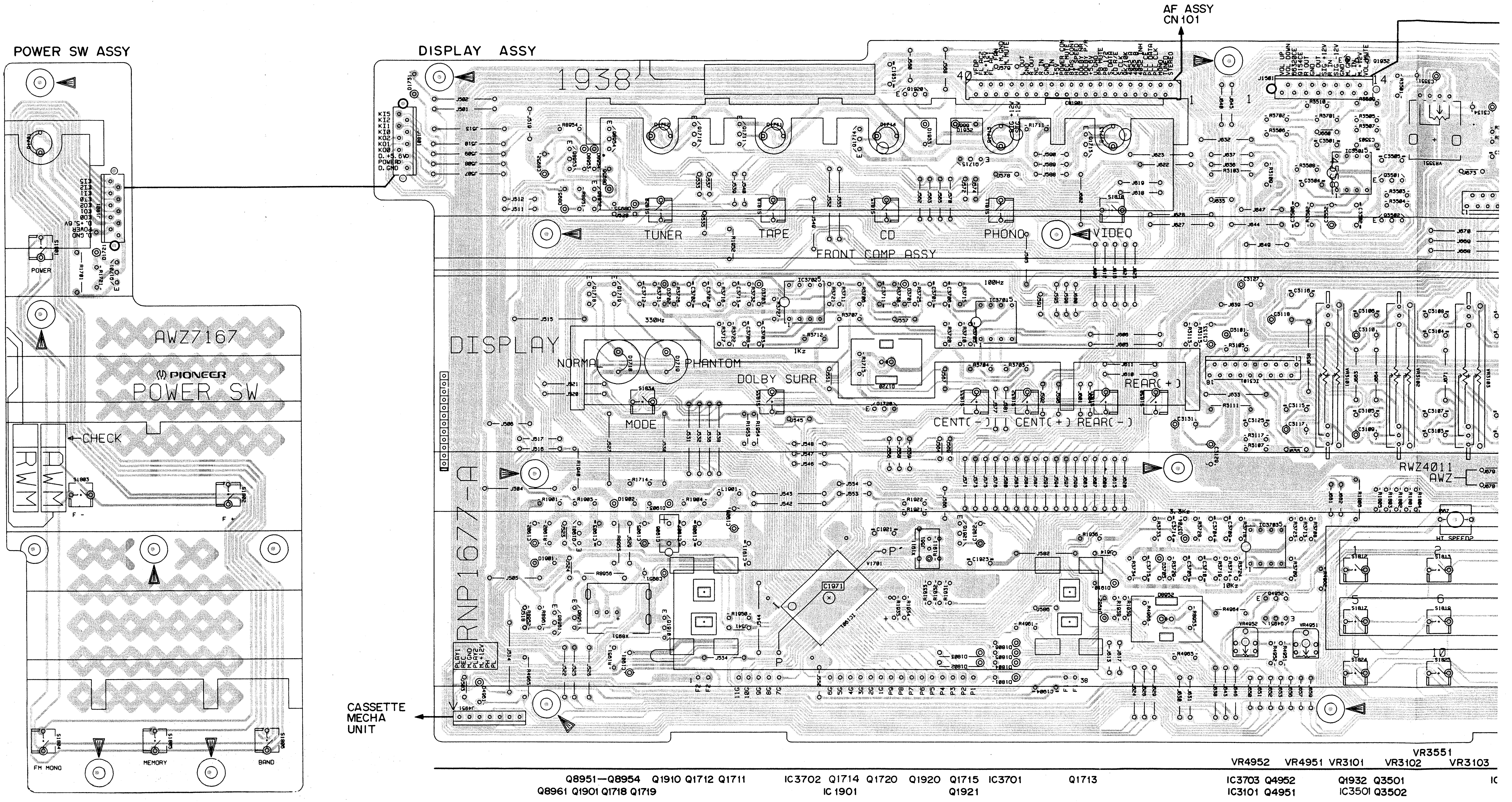
6.7 PWR, PRTEC ASSY (RX-390 ONLY)


PWR, PRTEC ASSY
(AWZ5455)
SCH - 7
AF ASSY J1001 (➡SCH-11)
+12V
+5.6V
UNREG+12V
UNREG+5.6V
REC.GND
BLOW
REF.GND
MUTE
-12V
AC
UNREG-12V
+12V.M.
CN7101
KPE12
FRONT ASSY FOR 100W
CN7501 (➡SCH-8)
OP+12V
TRIG.
OP-12V
DC
PROTECT
TEMP.
-12FAN
+12FAN
CN7103
AKT1022
C7140
22/16
ACH1248
C7141
22/16
ACH1248
BLOW
Q7217-Q7220, Q7211 : BLOW DRIVE
(BLOW:0)
(BLOW:0.1)
(MUTE,PROTECT:0)
(BLOW,PROTECT:0.8)
PROTECT
DC
(DC DETECT:+0.5)
(BLOW:0.6)
(MUTE:12)
(MUTE:0)
(MUTE:-12)
(MUTE:0.8)
(BLOW,PROTECT:0)
MUTE
Q7207-Q7210, Q7212, Q7221, Q7222 : MUTE DRIVE
AC
(MUTE:0)
-12
Q7213-Q7216 : VOLTAGE AMPLIFICATION STAGE OP AMP. +B SW
IC7401 : +12V 3-TERMINAL REGULATOR
IC7403 : +12V 3-TERMINAL REGULATOR (MOTOR SYSTEM)
+12V M
IC7404 : +5V 3-TERMINAL REGULATOR
REGULATOR
IC7402 : -12V 3-TERMINAL REGULATOR
Q7301, Q7302 : FAN MOTOR TEMPERATURE SENSOR
NOTE1
HEAT SINK TEMP SENSER
TEMP.

NOTE1:This voltage value will be greater or smaller if the temperature varies when the heat synch temperature is 25° C.
(Reference value : V = 8.6 -0.019 x Δt)
Δt : ± deviation from 25° C

PWR, PRTEC ASSY
(RX-390 ONLY)
SCH-7

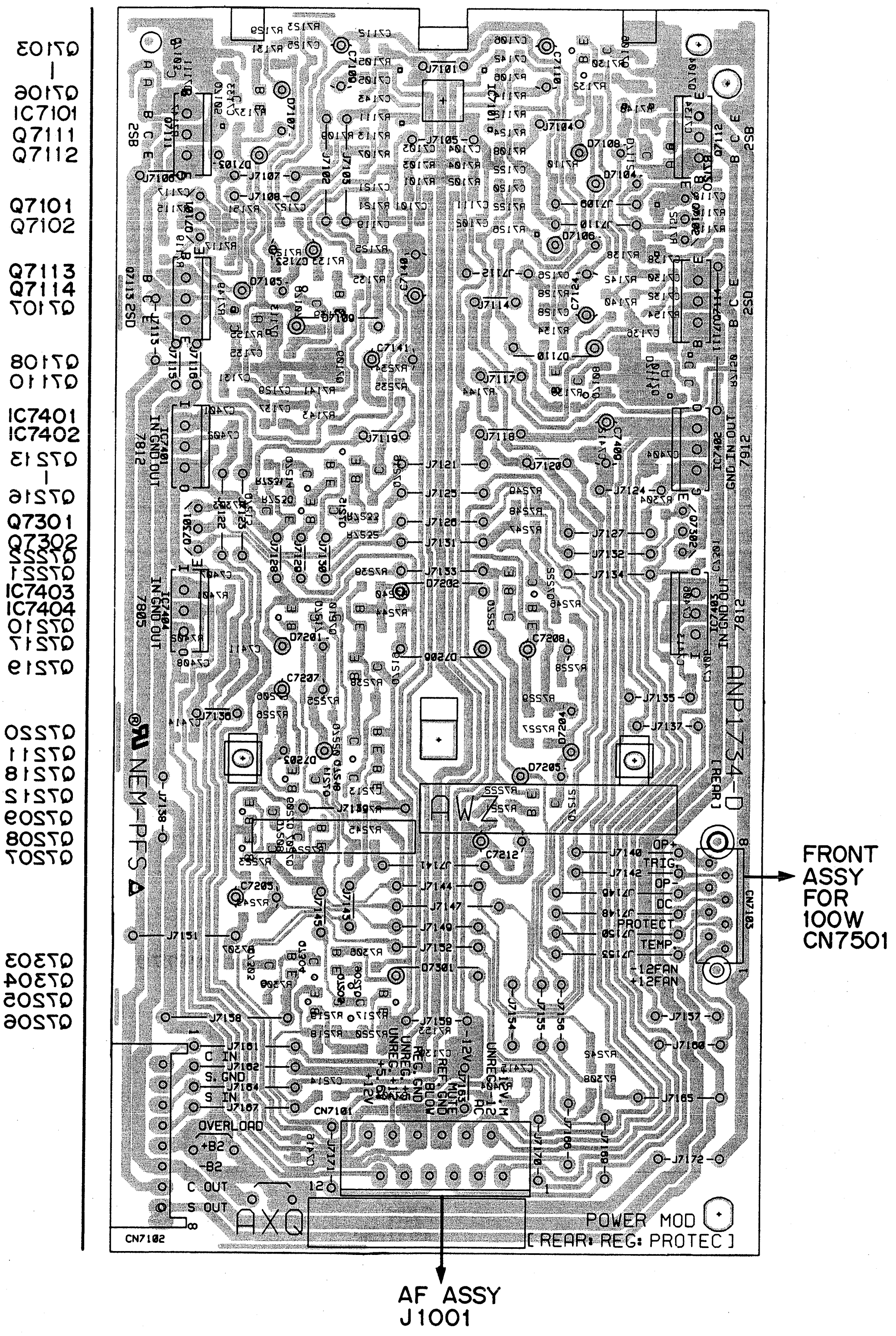
PWR, PRTEC ASSY
(RX-390 ONLY)
SCH-7


POWER SW ASSY
DISPLAY ASSY
AF ASSY
CN101
CASSETTE
MECHA
UNIT
AWZ7167
PIONEER
POWER SW
CHECK
AWM
RWM
POWER
F -
F +
FM MONO
MEMORY
BAND
1938
DISPLAY
RNP1677-A
TUNER
TAPE
CD
PHONO
VIDEO
FRONT COMP ASSY
NORMAL
PHANTOM
DOLBY SURR
MODE
CENT(-)
CENT(+)
REAR(-)
REAR(+)
100Hz
330Hz
1Kz
10Kz
3.3Kz
RWZ4011
AWZ
HI SPEED
VR3551
VR4952
VR4951
VR3101
VR3102
VR3103
Q8951—Q8954
Q1910
Q1712
Q1711
Q8961
Q1901
Q1718
Q1719
IC3702
Q1714
Q1720
Q1920
Q1715
IC3701
IC1901
Q1921
Q1713
IC3703
Q4952
IC3101
Q4951
Q1932
Q3501
IC3501
Q3502

- This diagram is viewed from the mounted parts side.

- The parts mounted on this PCB include all necessary parts for several destinations.
  For further information for respective destinations, be sure to check with the schematic diagram.

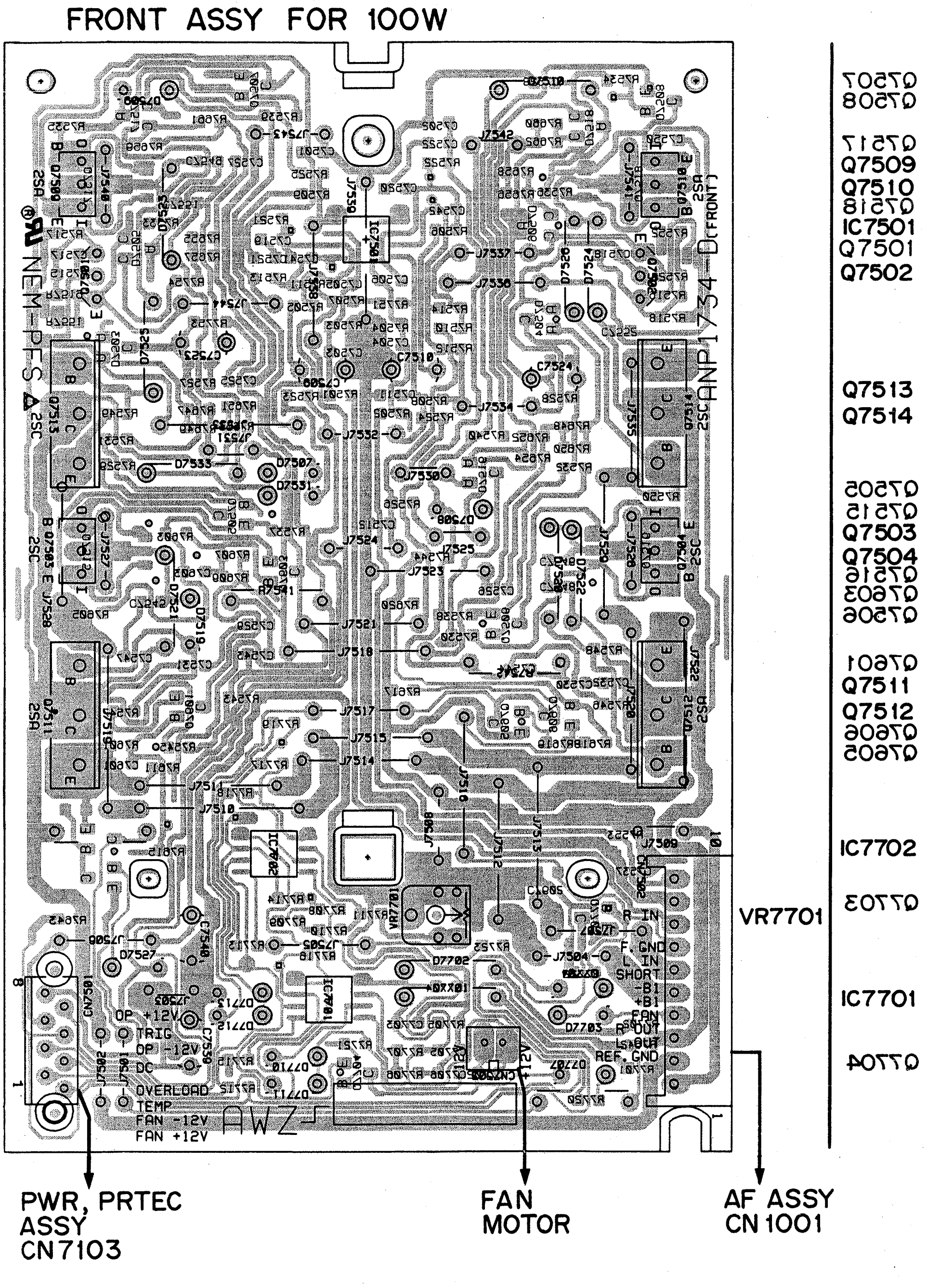
PWR, PRTEC ASSY


Q7103
|
Q7106
IC7101
Q7111
Q7112
Q7101
Q7102
Q7113
Q7114
Q7107
Q7108
Q7110
IC7401
IC7402
Q7213
|
Q7216
Q7301
Q7302
Q7222
Q7221
IC7403
IC7404
Q7210
Q7217
Q7219
Q7220
Q7211
Q7218
Q7212
Q7209
Q7208
Q7207
Q7203
Q7204
Q7205
Q7206
ANP1734-D
[REAR]
NEM-PFS
AWZ
AXQ
POWER MOD
[REAR: REG: PROTEC]
CN7102
CN7101
CN7103
C IN
S. GND
S IN
OVERLOAD
+B2
-B2
C OUT
S OUT
OP+
TRIG
OP-
DC
PROTECT
TEMP
-12FAN
+12FAN
FRONT ASSY FOR 100W CN7501
AF ASSY J1001

- This diagram is viewed from the mounted parts side.
- The parts mounted on this PCB include all necessary parts for several destinations.
For further information for respective destinations, be sure to check with the schematic diagram.

6.8 FRONT ASSY FOR 100W (RX-390 ONLY)

PCB-7


FRONT ASSY FOR 100W
Q7507
Q7508
Q7517
Q7509
Q7510
Q7518
IC7501
Q7501
Q7502
Q7513
Q7514
Q7505
Q7515
Q7503
Q7504
Q7516
Q7603
Q7606
Q7601
Q7511
Q7512
Q7606
Q7605
IC7702
VR7701
Q7703
IC7701
Q7704
PWR, PRTEC ASSY CN7103
FAN MOTOR
AF ASSY CN1001

- This diagram is viewed from the mounted parts side.
- The parts mounted on this PCB include all necessary parts for several destinations.
  For further information for respective destinations, be sure to check with the schematic diagram.

A

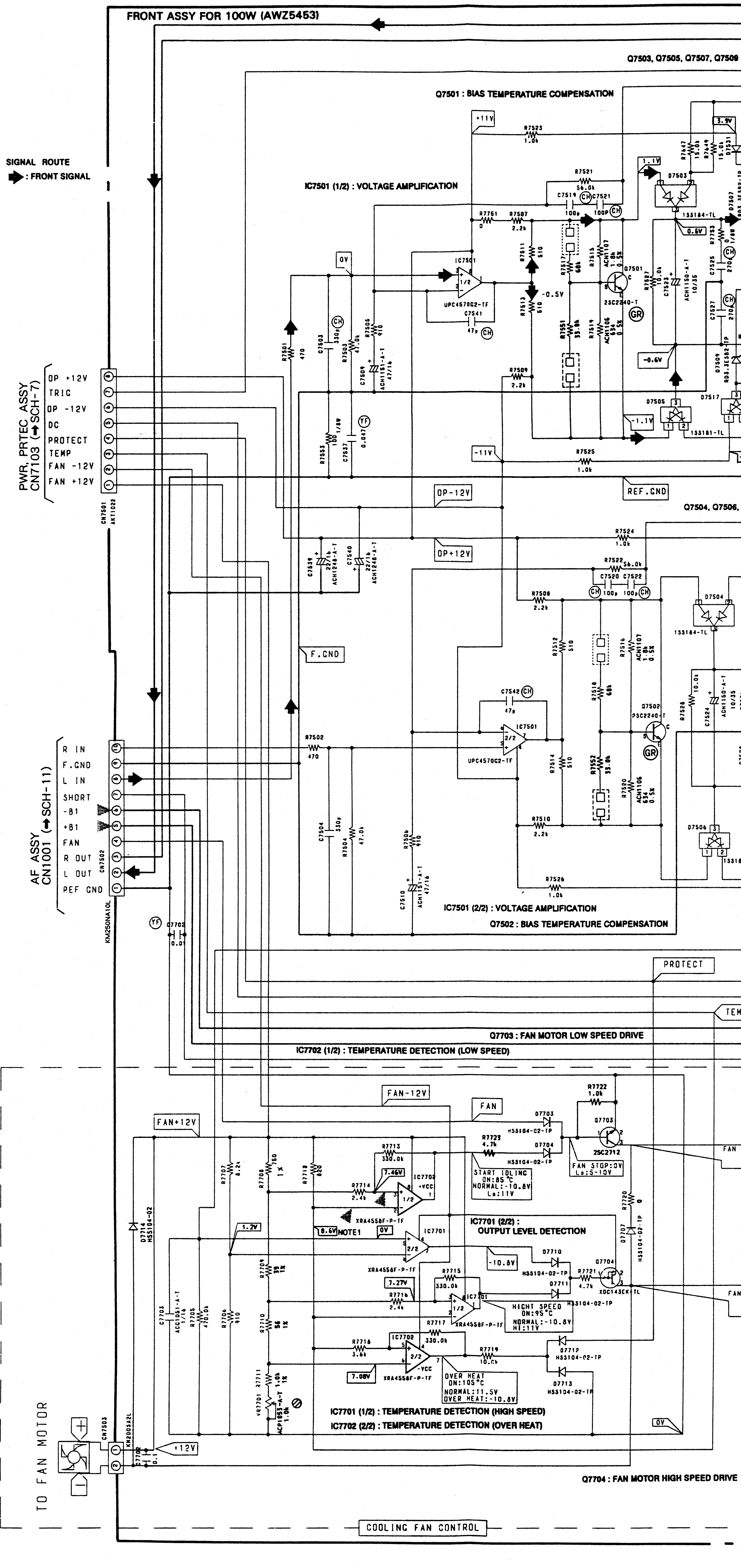
B

C

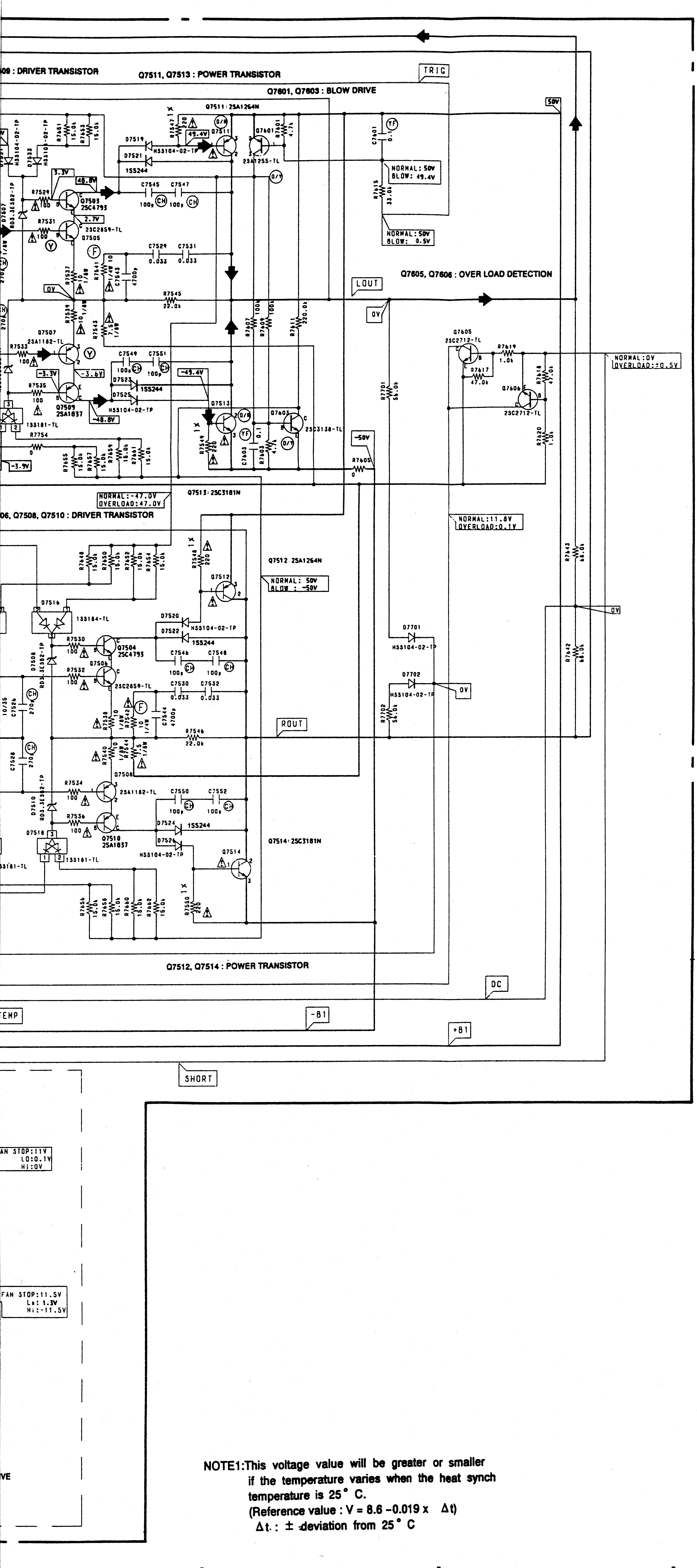
D

E

F


FRONT ASSY FOR 100W (AWZ5453)
SIGNAL ROUTE
: FRONT SIGNAL
Q7503, Q7505, Q7507, Q7509
Q7501 : BIAS TEMPERATURE COMPENSATION
IC7501 (1/2) : VOLTAGE AMPLIFICATION
UPC4570C2-TF
2SC2240-T
1SS184-TL
1SS181-TL
+11V
-11V
0V
-0.5V
-0.6V
-1.1V
1.1V
0.6V
3.9V
OP-12V
OP+12V
REF.GND
F.GND
Q7504, Q7506,
PWR, PRTEC ASSY CN7103 (→SCH-7)
OP +12V
TRIG
OP -12V
DC
PROTECT
TEMP
FAN -12V
FAN +12V
CN7501 AKT1022
AF ASSY CN1001 (→SCH-11)
R IN
F.GND
L IN
SHORT
-B1
+B1
FAN
R OUT
L OUT
PEF GND
CN7502
KM250NA10L
IC7501 (2/2) : VOLTAGE AMPLIFICATION
Q7502 : BIAS TEMPERATURE COMPENSATION
PROTECT
Q7703 : FAN MOTOR LOW SPEED DRIVE
IC7702 (1/2) : TEMPERATURE DETECTION (LOW SPEED)
FAN-12V
FAN+12V
FAN
2SC2712
FAN STOP:0V
Lo:5-10V
START IDLING
ON:85°C
NORMAL:-10.8V
Lo:11V
XRA4558F-P-TF
NOTE1
8.6V
7.46V
1.2V
7.27V
7.08V
-10.8V
IC7701 (2/2) : OUTPUT LEVEL DETECTION
HIGHT SPEED
ON:95°C
NORMAL:-10.8V
HI:11V
OVER HEAT
ON:105°C
NORMAL:11.5V
OVER HEAT:-10.8V
XOC143EK-TL
HSS104-02-TP
IC7701 (1/2) : TEMPERATURE DETECTION (HIGH SPEED)
IC7702 (2/2) : TEMPERATURE DETECTION (OVER HEAT)
Q7704 : FAN MOTOR HIGH SPEED DRIVE
TO FAN MOTOR
CN7503
KM200SA2L
+12V
COOLING FAN CONTROL

SCH-8 FRONT ASSY FOR 100W (RX-390 ONLY)

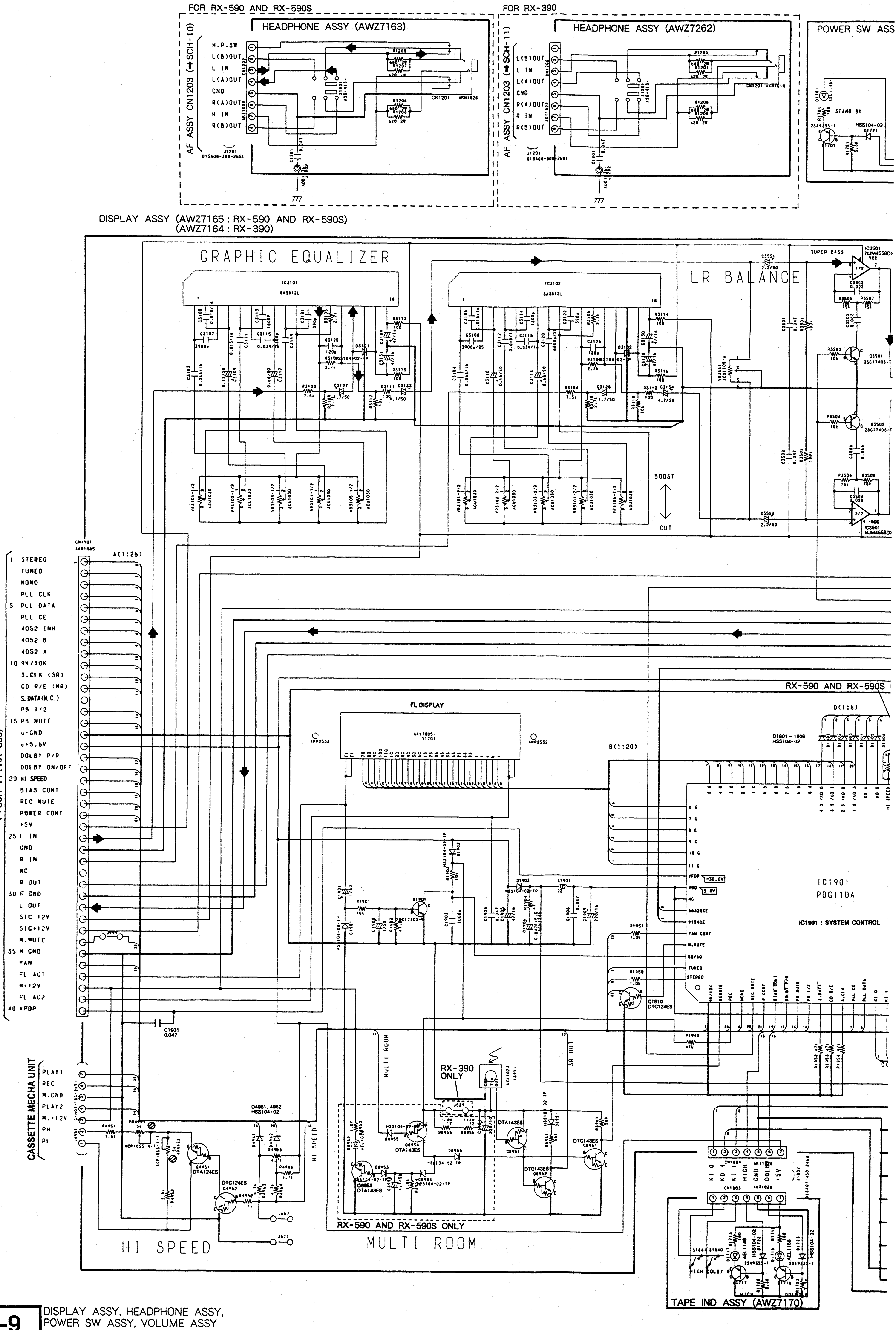

09 : DRIVER TRANSISTOR
Q7511, Q7513 : POWER TRANSISTOR
TRIG
Q7601, Q7603 : BLOW DRIVE
Q7511 : 2SA1264N
50V
49.4V
48.8V
3.3V
2.7V
Q7503
2SC4793
Q7505
2SC2859-TL
D7519
D7521
HSS104-02-TP
1SS244
C7545
C7547
100p
C7529
C7531
0.033
R7545
22.0k
2SA1255-TL
C7601
NORMAL: 50V
BLOW: 49.4V
NORMAL: 50V
BLOW: 0.5V
Q7605, Q7606 : OVER LOAD DETECTION
LOUT
0V
Q7507
2SA1162-TL
-3.3V
-3.6V
-49.4V
-48.8V
Q7509
2SA1837
1SS181-TL
R7754
-3.9V
C7549
C7551
D7523
D7525
Q7513
Q7603
2SC3138-TL
-50V
R7605
Q7605
2SC2712-TL
R7619
1.0k
R7617
47.0k
Q7606
R7618
47.0k
R7620
10.0k
NORMAL: 0V
OVERLOAD: -0.5V
R7701
56.0k
NORMAL: -47.0V
OVERLOAD: 47.0V
Q7513 : 2SC3181N
06, Q7508, Q7510 : DRIVER TRANSISTOR
NORMAL: 11.8V
OVERLOAD: 0.1V
Q7512 : 2SA1264N
NORMAL: 50V
BLOW : -50V
Q7512
D7516
1SS184-TL
D7520
D7522
Q7504
2SC4793
Q7506
2SC2859-TL
C7546
C7548
C7530
C7532
D7701
HSS104-02-TP
D7702
0V
R7702
56.0k
R7643
68.0k
R7642
68.0k
0V
ROUT
R7546
22.0k
Q7508
2SA1162-TL
C7550
C7552
D7524
D7526
1SS244
Q7510
2SA1837
D7518
1SS181-TL
Q7514 : 2SC3181N
Q7514
Q7512, Q7514 : POWER TRANSISTOR
DC
TEMP
-B1
+B1
SHORT
AN STOP: 11V
LO: 0.1V
HI: 0V
FAN STOP: 11.5V
Lo: 1.3V
Hi: -11.5V
VE

NOTE1:This voltage value will be greater or smaller if the temperature varies when the heat synch temperature is 25° C.
(Reference value : V = 8.6 -0.019 x Δt)
Δt : ± deviation from 25° C

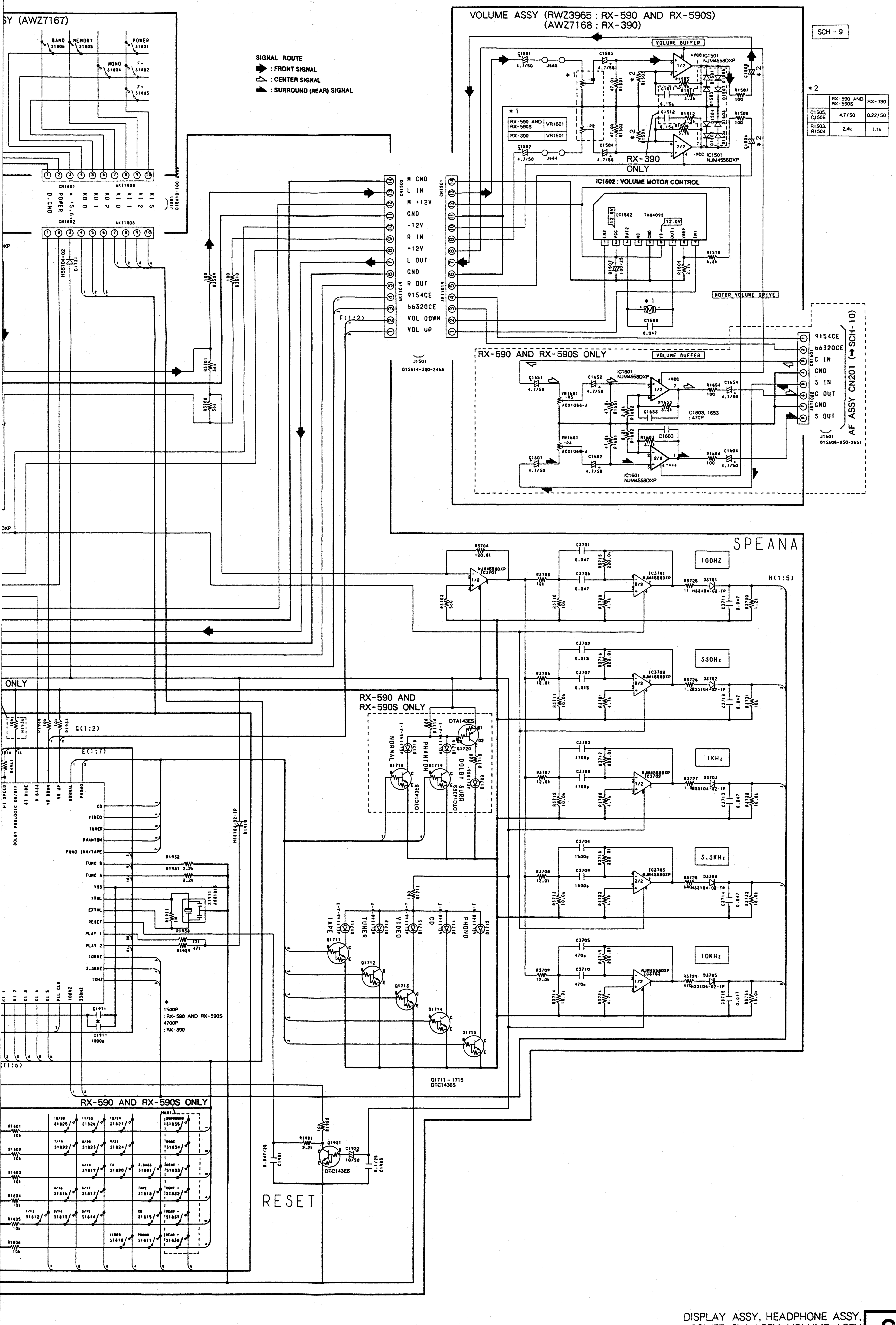
FRONT ASSY FOR 100W
(RX-390 ONLY)

SCH-8

6.9 DISPLAY, HEADPHONE, POWER SW, VOLUME AND TAPE IND ASSEMBLIES


FOR RX-590 AND RX-590S
HEADPHONE ASSY (AWZ7163)
AF ASSY CN1203 (➡SCH-10)
H.P.SW
L(B)OUT
L IN
L(A)OUT
GND
R(A)OUT
R IN
R(B)OUT
CN1202
CN1201 AKN1025
J1201
FOR RX-390
HEADPHONE ASSY (AWZ7262)
AF ASSY CN1203 (➡SCH-11)
POWER SW ASS
STAND BY
DISPLAY ASSY (AWZ7165 : RX-590 AND RX-590S)
(AWZ7164 : RX-390)
GRAPHIC EQUALIZER
IC3101
BA3812L
IC3102
BA3812L
LR BALANCE
SUPER BASS
IC3501
NJM4558DX
Q3501
Q3502
BOOST
CUT
CN1901
A(1:26)
1 STEREO
TUNED
MONO
PLL CLK
5 PLL DATA
PLL CE
4052 INH
4052 B
4052 A
10 9K/10K
S.CLK (SR)
CD R/E (MR)
S.DATA(N.C.)
PB 1/2
15 PB MUTE
u-GND
u+5.6V
DOLBY P/R
DOLBY ON/OFF
20 HI SPEED
BIAS CONT
REC MUTE
POWER CONT
+5V
25 L IN
GND
R IN
NC
R OUT
30 F GND
L OUT
SIC 12V
SIC+12V
M.MUTE
35 M GND
FAN
FL AC1
M+12V
FL AC2
40 VFDP
AF ASSY CN101 (➡SCH-10 : RX-590 AND RX-590S)
(➡SCH-11 : RX-390)
FL DISPLAY
AAV7005-V1701
RX-590 AND RX-590S
D(1:6)
D1801 - 1806
HSS104-02
B(1:20)
IC1901
PDG110A
IC1901 : SYSTEM CONTROL
-30.0V
5.0V
Q1910
DTC124ES
C1931
0.047
MULTI ROOM
SR OUT
RX-390 ONLY
CASSETTE MECHA UNIT
PLAY1
REC
M.GND
PLAY2
M.+12V
PH
PL
D4961, 4962
HSS104-02
DTA124ES
DTC124ES
DTA143ES
DTC143ES
HI SPEED
RX-590 AND RX-590S ONLY
MULTI ROOM
CN1804
CN1803
AKT1026
KI 0
KO 4
KI 1
HIGH
GND
DOLBY
+5V
HIGH
DOLBY
TAPE IND ASSY (AWZ7170)

SCH-9 DISPLAY ASSY, HEADPHONE ASSY, POWER SW ASSY, VOLUME ASSY
TAPE IND ASSY


SY (AWZ7167)
BAND S1606
MEMORY S1605
POWER S1601
MONO S1604
F- S1602
F+ S1603
SIGNAL ROUTE
: FRONT SIGNAL
: CENTER SIGNAL
: SURROUND (REAR) SIGNAL
CN1601
CN1602
AKT1008
D.GND
POWER
+5.6V
KO 0
KO 1
KO 2
KI 0
KI 1
KI 2
KI 5
HSS104-02
D1731
VOLUME ASSY (RWZ3965 : RX-590 AND RX-590S)
(AWZ7168 : RX-390)
VOLUME BUFFER
IC1501 NJM4558DXP
RX-590 AND RX-590S VR1601
RX-390 VR1501
RX-390 ONLY
IC1502 : VOLUME MOTOR CONTROL
IC1502 TA8409S
MOTOR VOLUME DRIVE
M GND
L IN
M +12V
GND
-12V
R IN
+12V
L OUT
GND
R OUT
9154CE
66320CE
VOL DOWN
VOL UP
CN1502
CN1501
AKT1019
J1501
D15A14-300-2468
F(1:2)
RX-590 AND RX-590S ONLY
IC1601 NJM4558DXP
VR1601 ACX1088-A
C1603, 1653 : 470P
9154CE
66320CE
C IN
GND
S IN
C OUT
GND
S OUT
AF ASSY CN201 (→SCH-10)
J1601
D15A08-250-2651
SPEANA
100HZ
330Hz
1KHz
3.3KHz
10KHz
IC3701 NJM4558DXP
IC3702 NJM4558DXP
IC3703 NJM4558DXP
IC3704 NJM4558DXP
IC3705 NJM4558DXP
HSS104-02-TP
H(1:5)
ONLY
G(1:2)
E(1:7)
RX-590 AND RX-590S ONLY
NORMAL
PHANTOM
DOLBY SURR
DTA143ES
DTC143ES
CD
VIDEO
TUNER
PHANTOM
FUNC INH/TAPE
FUNC B
FUNC A
VSS
XTAL
EXTAL
RESET
PLAY 1
PLAY 2
10KHZ
3.3KHZ
1KHZ
HI SPEED
DOLBY PROLOGIC ON/OFF
3T WIDE
3 BASS
VR DOWN
VR UP
NORMAL
PHONO
TAPE
TUNER
VIDEO
CD
PHONO
Q1711 - 1715 DTC143ES
1500P : RX-590 AND RX-590S
4700P : RX-390
C1911 1000p
RX-590 AND RX-590S ONLY
RESET
Q1921 DTC143ES

SCH - 9

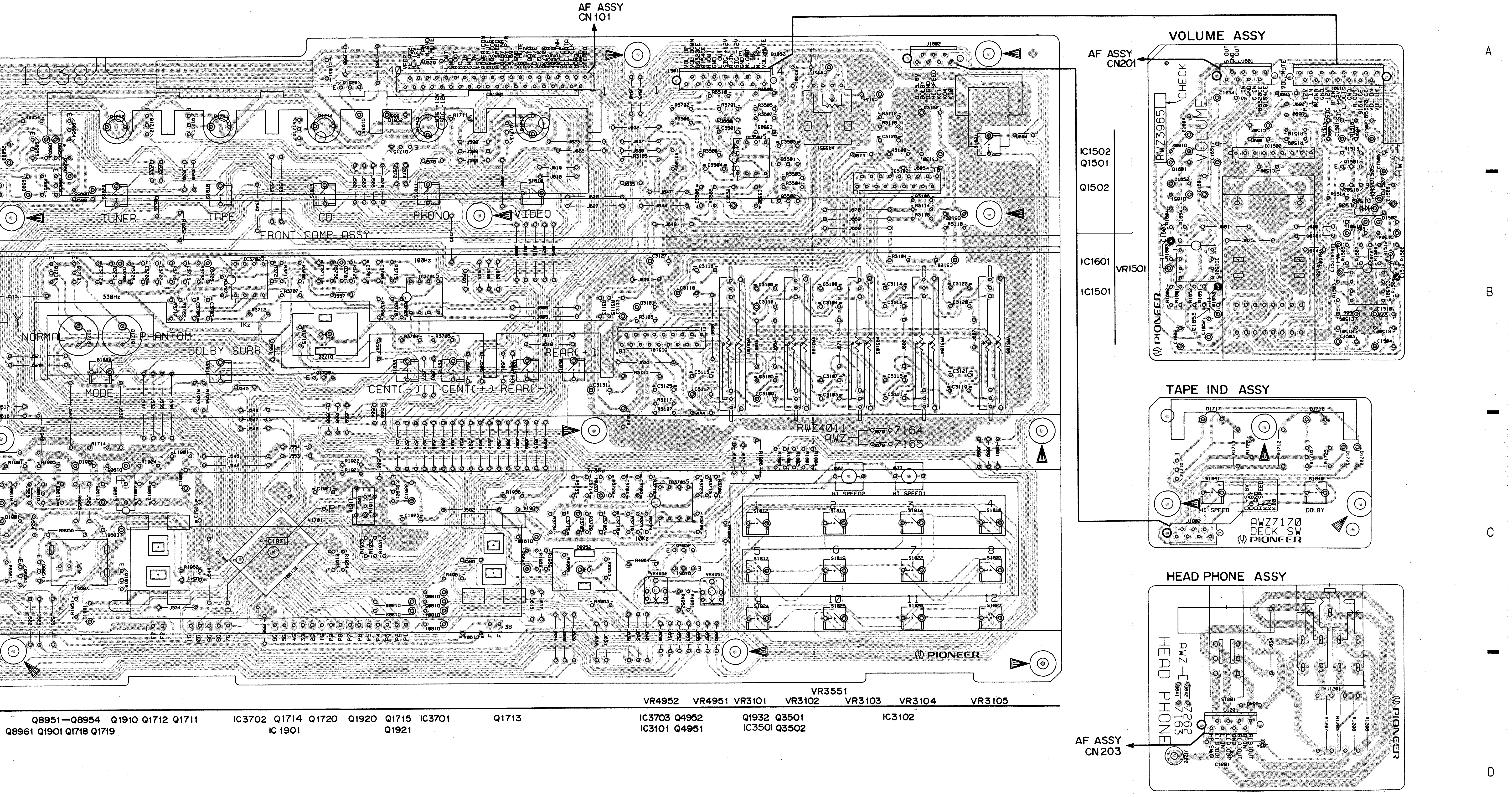
*2

	RX-590 AND RX-590S	RX-390
C1505, CJ506	4.7/50	0.22/50
R1503, R1504	2.4k	1.1k

DISPLAY ASSY, HEADPHONE ASSY,
POWER SW ASSY, VOLUME ASSY
TAPE IND ASSY

SCH-9

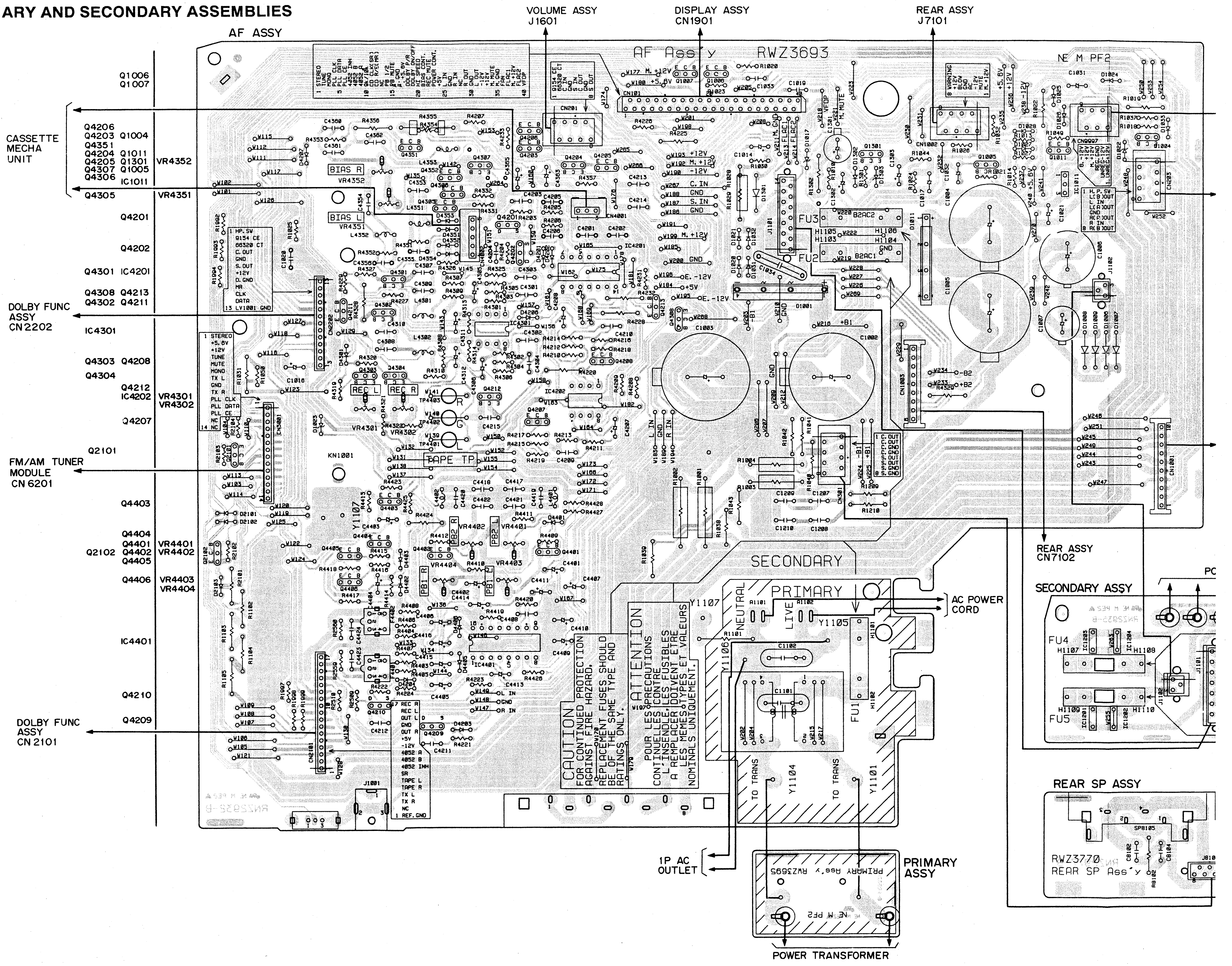
PCB – 8

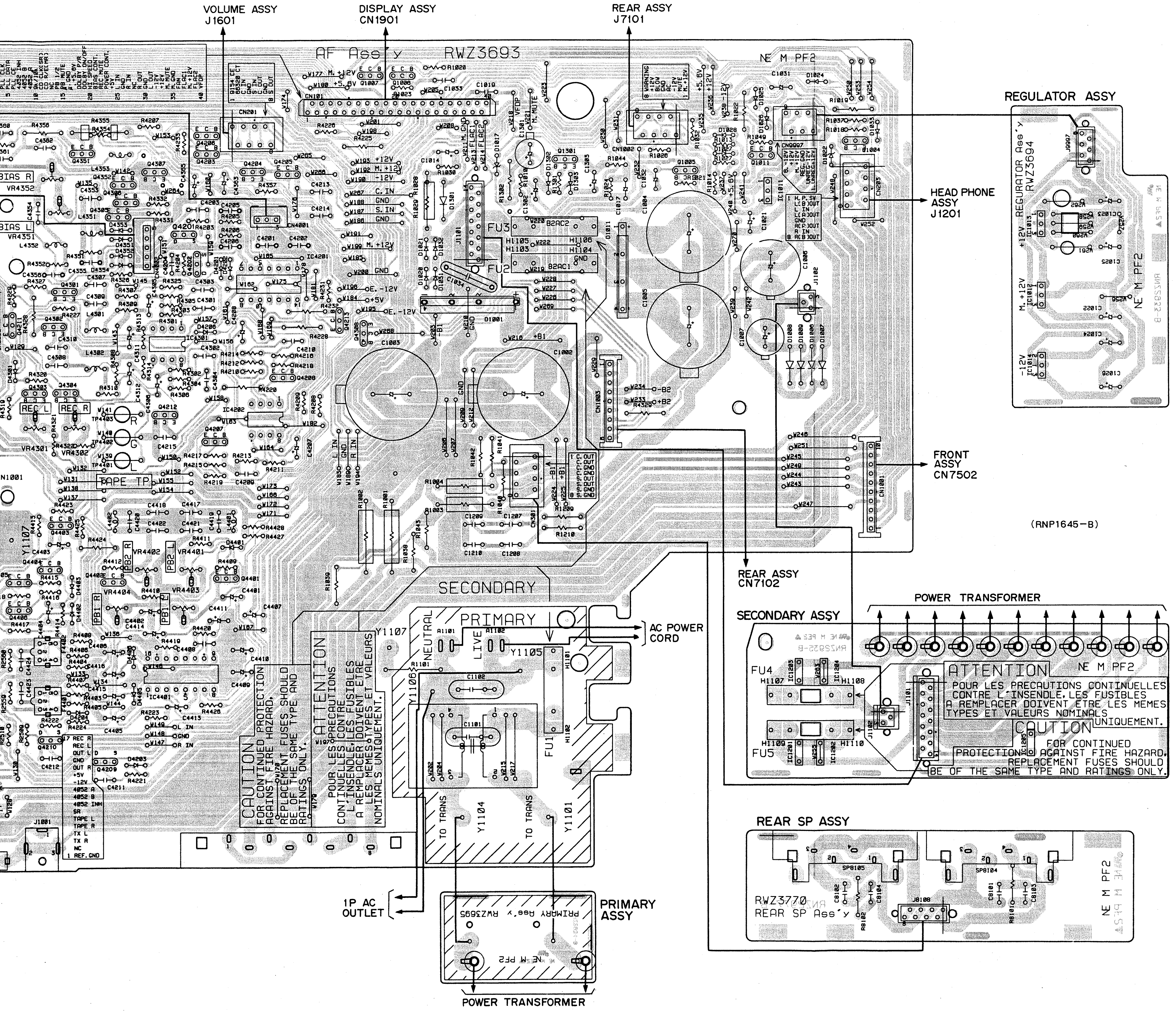

AF ASSY
CN101
VOLUME ASSY
AF ASSY
CN201
CHECK
VOLUME
RWZ3965
IC1502
Q1501
Q1502
IC1601
VR1501
IC1501
TUNER
TAPE
CD
PHONO
VIDEO
FRONT COMP ASSY
NORMAL
PHANTOM
DOLBY SURR
MODE
CENT(-)
CENT(+)
REAR(-)
REAR(+)
RWZ4011
AWZ-
7164
7165
HI SPEED2
HI SPEED1
TAPE IND ASSY
HI-SPEED
DOLBY
AWZ7170
DECK SW
HEAD PHONE ASSY
HEAD PHONE
AWZ-
7262
7163
AF ASSY
CN203
PIONEER
VR3551
VR4952
VR4951
VR3101
VR3102
VR3103
VR3104
VR3105
Q8951—Q8954
Q1910
Q1712
Q1711
Q8961
Q1901
Q1718
Q1719
IC3702
Q1714
Q1720
Q1920
Q1715
IC3701
IC1901
Q1921
Q1713
IC3703
Q4952
IC3101
Q4951
Q1932
Q3501
IC3501
Q3502
IC3102

- This diagram is viewed from the mounted parts side.

- The parts mounted on this PCB include all necessary parts for several destinations.
For further information for respective destinations, be sure to check with the schematic diagram.

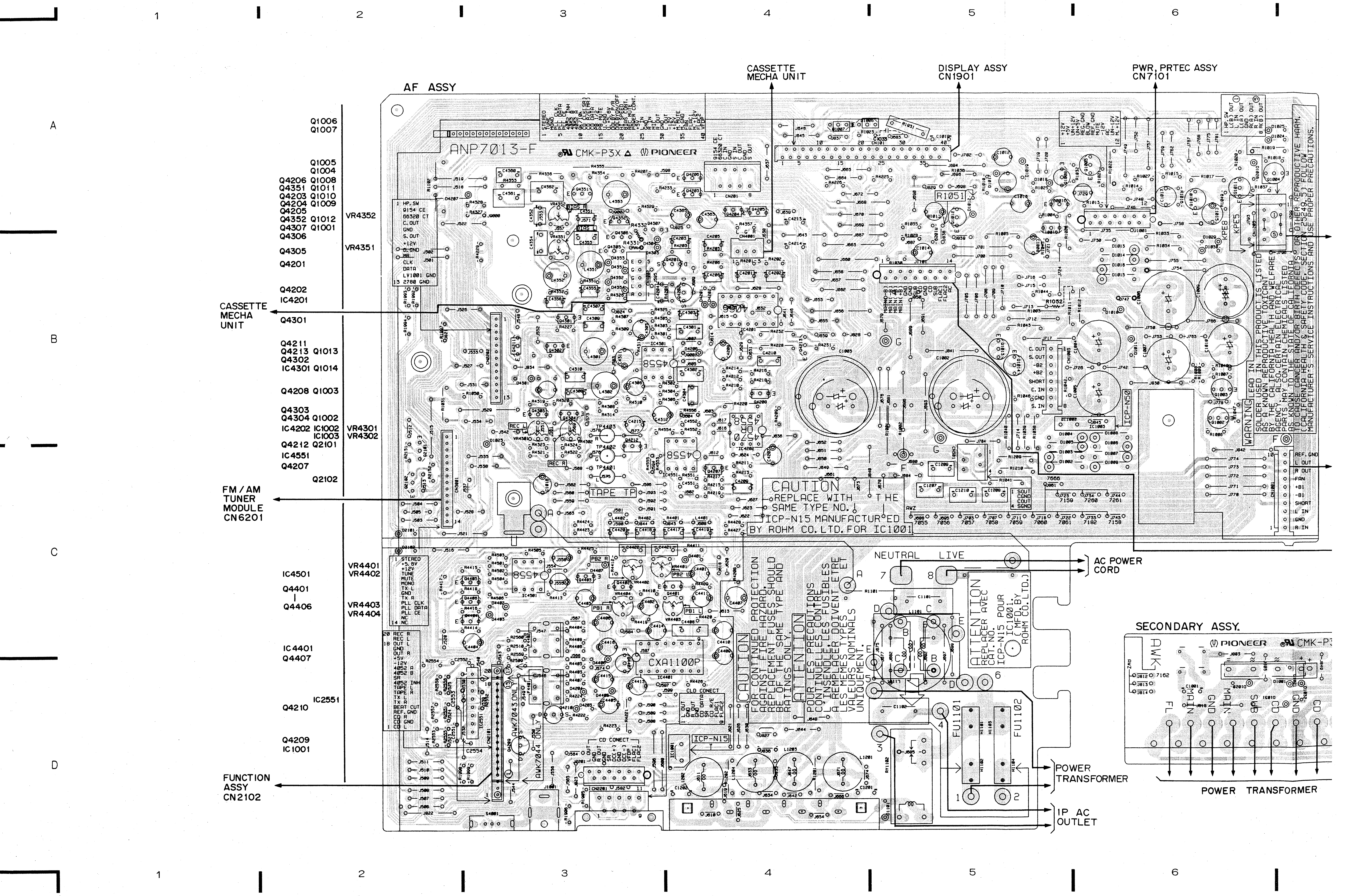
6.10 AF, REGULATOR, REAR SP, PRIMARY AND SECONDARY ASSEMBLIES (RX-590 AND RX-590S ONLY)

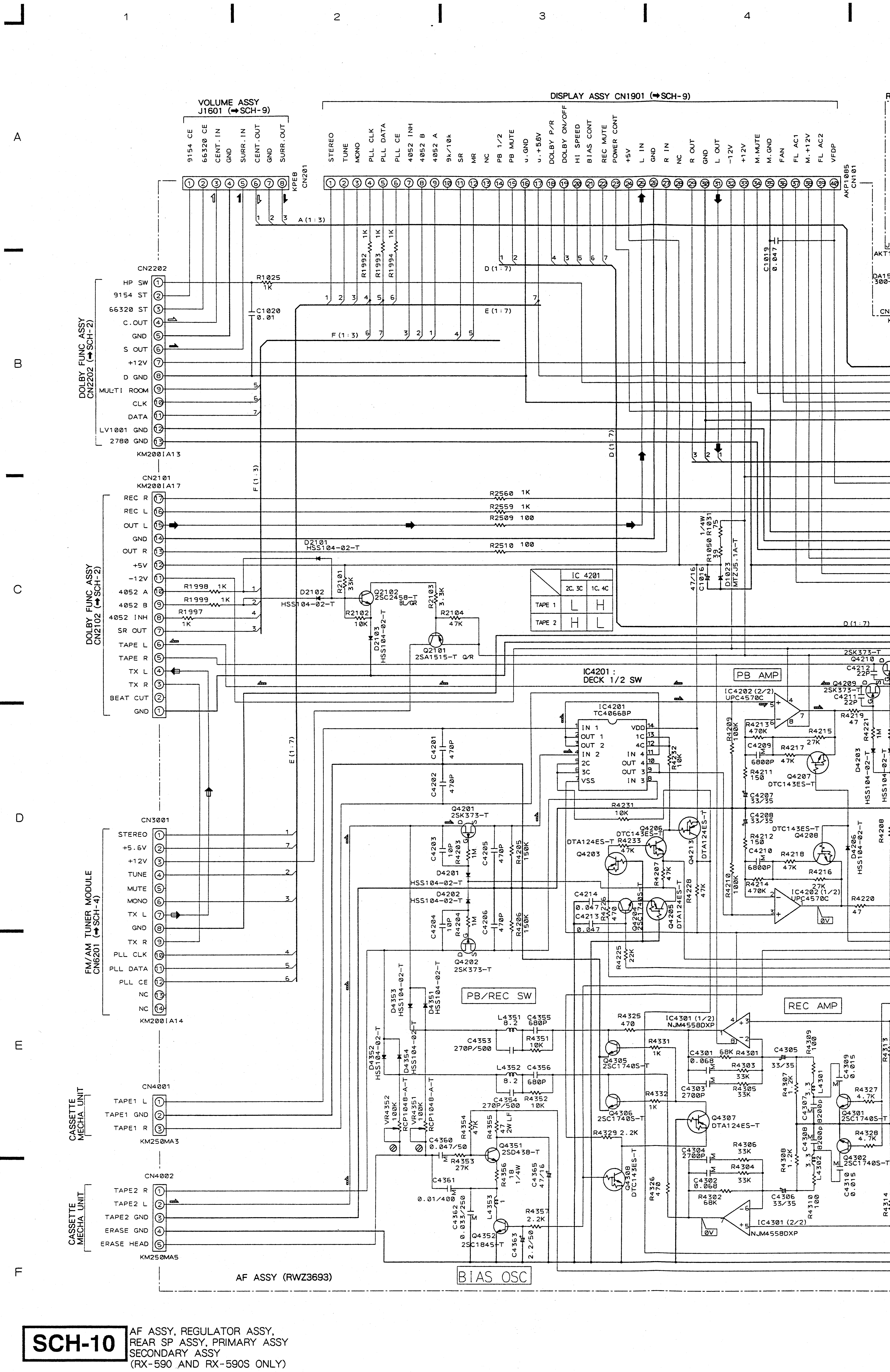

AF ASSY
VOLUME ASSY J1601
DISPLAY ASSY CN1901
REAR ASSY J7101
AF Ass'y RWZ3693
CASSETTE MECHA UNIT
Q1006 Q1007
Q4206 Q4203 Q1004 Q4351 Q4204 Q1011 Q4205 Q1301 Q4307 Q1005 Q4306 IC1011 Q4305
VR4352 VR4351
Q4201 Q4202 Q4301 IC4201 Q4308 Q4213 Q4302 Q4211
DOLBY FUNC ASSY CN2202
IC4301
Q4303 Q4208 Q4304
Q4212 IC4202 VR4301 VR4302
Q4207
Q2101
FM/AM TUNER MODULE CN 6201
Q4403
Q4404 Q4401 Q4402 Q4405 VR4401 VR4402
Q2102
Q4406 VR4403 VR4404
IC4401
Q4210 Q4209
DOLBY FUNC ASSY CN 2101
BIAS R VR4352
BIAS L VR4351
REC L REC R
TAPE TP
PB2 R PB2 L PB1 R PB1 L
FU2 FU3 FU1
SECONDARY
PRIMARY
NEUTRAL LIVE
CAUTION FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACEMENT FUSES SHOULD BE OF THE SAME TYPE AND RATINGS ONLY.
ATTENTION POUR LES PRECAUTIONS CONTINUELLES CONTRE LE RISQUES D'INCENDIE, LES FUSIBLES A REMPLACER DOIVENT ETRE DES MEMES TYPES ET VALEURS NOMINALS UNIQUEMENT.
AC POWER CORD
TO TRANS Y1104 TO TRANS Y1101
1P AC OUTLET
PRIMARY ASSY
PRIMARY Ass'y RWZ3695
POWER TRANSFORMER
REAR ASSY CN7102
SECONDARY ASSY
FU4 FU5
REAR SP ASSY
RWZ3770 REAR SP Ass'y
1 2 3 4 5 6
A B C D


VOLUME ASSY
J1601
DISPLAY ASSY
CN1901
REAR ASSY
J7101
AF Ass'y RWZ3693
NE M PF2
REGULATOR ASSY
REGURATOR Ass'y RWZ3694
HEAD PHONE ASSY
J1201
FRONT ASSY
CN7502
(RNP1645-B)
REAR ASSY
CN7102
SECONDARY
PRIMARY
NEUTRAL
LIVE
AC POWER CORD
SECONDARY ASSY
POWER TRANSFORMER
FU1
FU2
FU3
FU4
FU5
ATTENTION
POUR LES PRECAUTIONS CONTINUELLES CONTRE L'INSENDLE. LES FUSIBLES A REMPLACER DOIVENT ETRE LES MEMES TYPES ET VALEURS NOMINALS UNIQUEMENT.
CAUTION
FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACEMENT FUSES SHOULD BE OF THE SAME TYPE AND RATINGS ONLY.
TO TRANS
1P AC OUTLET
PRIMARY ASSY
PRIMARY Ass'y RWZ3695
POWER TRANSFORMER
REAR SP ASSY
RWZ3770
REAR SP Ass'y
BIAS R
BIAS L
REC L
REC R
TAPE TP
PB1 R
PB1 L
PB2 R
PB2 L

- This diagram is viewed from the mounted parts side.

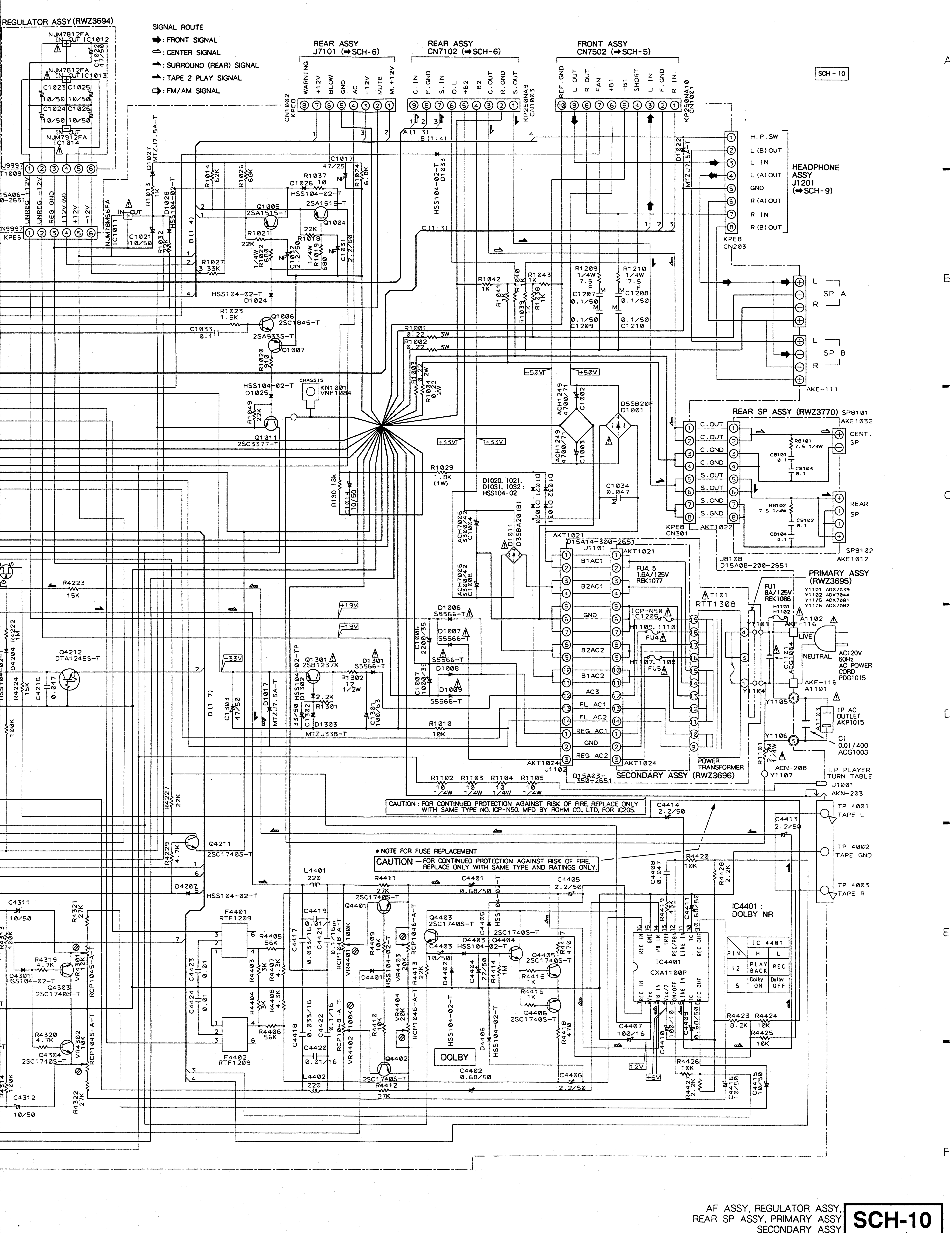
- The parts mounted on this PCB include all necessary parts for several destinations.
For further information for respective destinations, be sure to check with the schematic diagram.

1
2
3
4
5
6
A
B
C
D
AF ASSY
CASSETTE MECHA UNIT
DISPLAY ASSY CN1901
PWR, PRTEC ASSY CN7101
ANP7013-F
CMK-P3X
PIONEER
Q1006 Q1007
Q1005 Q1004
Q4206 Q1008
Q4351 Q1011
Q4203 Q1010
Q4204 Q1009
Q4205
Q4352 Q1012
Q4307 Q1001
Q4306
Q4305
Q4201
Q4202
IC4201
Q4301
Q4211
Q4213 Q1013
Q4302
IC4301 Q1014
Q4208 Q1003
Q4303
Q4304 Q1002
IC4202 IC1002
IC1003
Q4212 Q2101
IC4551
Q4207
Q2102
VR4352
VR4351
VR4301 VR4302
CASSETTE MECHA UNIT
FM / AM TUNER MODULE CN6201
IC4501
Q4401 | Q4406
IC4401
Q4407
IC2551
Q4210
Q4209
IC1001
VR4401 VR4402
VR4403 VR4404
FUNCTION ASSY CN2102
REC L
REC R
BIAS R
BIAS L
TAPE TP
TP4403
TP4402
TP4401
4558
CXA1100P
AWK7043 ONLY
AWK7044 ONLY
CD CONECT
CLD CONECT
ICP-N15
ICP-N50
KPE8
KPE5
R1051
R1052
PB2 R
PB2 L
PB1 R
PB1 L
CAUTION
REPLACE WITH THE SAME TYPE NO. ICP-N15 MANUFACTURED BY ROHM CO.LTD. FOR IC1001
CAUTION
FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACEMENT FUSES SHOULD BE OF THE SAME TYPE AND RATINGS ONLY.
ATTENTION
POUR LES PRECAUTIONS CONTINUELLES CONTRE LES RISQUES D'INCENDIE, LES FUSIBLES DE REMPLACEMENT DOIVENT ETRE LES MEMES TYPES ET VALEURS NOMINALES UNIQUEMENT.
ATTENTION
REPLACER AVEC CAT. NO. ICP-N15 POUR IC1001. MFD. BY ROHM CO.LTD.
WARNING
LEAD IN SOLDER USED IN THIS PRODUCT IS LISTED AS A KNOWN REPRODUCTIVE TOXICANT BY THE CALIFORNIA HEALTH AND WELFARE AGENCY. ALSO, CERTAIN ELECTRICAL PARTS MAY CONTAIN CHEMICALS LISTED AS KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER AND/OR BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM. (CALIFORNIA HEALTH & SAFETY CODE, SECTION 25249.5) FOLLOW MANUFACTURER'S SERVICE INSTRUCTIONS AND USE PROPER PRECAUTIONS.
NEUTRAL
LIVE
AC POWER CORD
FU1101
FU1102
POWER TRANSFORMER
IP AC OUTLET
REF. GND
L OUT
R OUT
FAN
+B1
-B1
SHORT
L IN
GND
R IN
C. OUT
S. OUT
-B2
+B2
C. IN
S. IN
SECONDARY ASSY.
AWK
PIONEER
CMK-P3
FL
MAIN
GND
MAIN
SWB
CD
GND
POWER TRANSFORMER


1
2
3
4
A
B
C
D
E
F
VOLUME ASSY J1601 (➡SCH-9)
9154 CE
66320 CE
CENT.IN
GND
SURR.IN
CENT.OUT
GND
SURR.OUT
KPEB CN201
DISPLAY ASSY CN1901 (➡SCH-9)
STEREO
TUNE
MONO
PLL CLK
PLL DATA
PLL CE
4052 INH
4052 B
4052 A
9k/10k
SR
MR
NC
PB 1/2
PB MUTE
U.GND
U.+5.6V
DOLBY P/R
DOLBY ON/OFF
HI SPEED
BIAS CONT
REC MUTE
POWER CONT
+5V
L IN
GND
R IN
NC
R OUT
GND
L OUT
-12V
+12V
M.MUTE
M.GND
FAN
FL AC1
M.+12V
FL AC2
VFDP
AKP1085 CN101
A (1:3)
R1992 1K
R1993 1K
R1994 1K
C1019 0.047
D (1:7)
E (1:7)
F (1:3)
CN2202
DOLBY FUNC ASSY CN2202 (⬆SCH-2)
HP SW
9154 ST
66320 ST
C.OUT
GND
S OUT
+12V
D GND
MULTI ROOM
CLK
DATA
LV1001 GND
2780 GND
KM200IA13
R1025 1K
C1020 0.01
CN2101 KM200IA17
DOLBY FUNC ASSY CN2102 (⬆SCH-2)
REC R
REC L
OUT L
GND
OUT R
+5V
-12V
4052 A
4052 B
4052 INH
SR OUT
TAPE L
TAPE R
TX L
TX R
BEAT CUT
GND
R2560 1K
R2559 1K
R2509 100
R2510 100
D2101 HSS104-02-T
D2102 HSS104-02-T
R1998 1K
R1999 1K
R1997 1K
R2101 33K
Q2102 2SC2458-T BL/GR
R2102 10K
D2103 HSS104-02-T
R2103 3.3K
R2104 47K
Q2101 2SA1515-T Q/R
R1050 39
R1031 75 1/4W
C1016 47/16
D1023 MTZJ5.1A-T
IC4201 : DECK 1/2 SW
IC4201 TC4066BP
IN 1
OUT 1
OUT 2
IN 2
2C
3C
VSS
VDD
1C
4C
IN 4
OUT 4
OUT 3
IN 3
R4232 10K
R4231 10K
C4201 470P
C4202 470P
Q4201 2SK373-T
C4203 10P
R4203 1M
C4205 470P
R4205 150K
D4201 HSS104-02-T
D4202 HSS104-02-T
C4204 10P
R4204 1M
C4206 470P
R4206 150K
Q4202 2SK373-T
DTA124ES-T
R4233 47K
Q4203
Q4206 DTC143ES-T
Q4213 DTA124ES-T
R4207 47K
R4228 47K
C4214 0.047
C4213 0.047
R4226 47K
Q4204 2SC1740S-T
Q4205 DTA124ES-T
R4225 22K
PB AMP
IC4202 (2/2) UPC4570C
R4213 470K
R4215 27K
C4209 6800P
R4217 47K
R4211 150
Q4207 DTC143ES-T
C4207 33/35
C4208 33/35
R4212 150
DTC143ES-T Q4208
C4210 6800P
R4218 47K
R4216 27K
R4214 470K
IC4202 (1/2) UPC4570C
R4209 100K
R4210 100K
R4219 47
R4220 47
R4221 1M
R4208
D4203 HSS104-02-T
D4206 HSS104-02-T
0V
2SK373-T Q4210
C4212 22P
Q4209 2SK373-T
C4211 22P
CN3001
FM/AM TUNER MODULE CN6201 (⬆SCH-4)
STEREO
+5.6V
+12V
TUNE
MUTE
MONO
TX L
GND
TX R
PLL CLK
PLL DATA
PLL CE
NC
KM200IA14
PB/REC SW
D4353 HSS104-02-T
D4351 HSS104-02-T
D4352 HSS104-02-T
D4354 HSS104-02-T
L4351 8.2
C4355 680P
C4353 270P/500
R4351 10K
L4352 8.2
C4356 680P
C4354 270P/500
R4352 10K
VR4352 100K RCP1048-A-T
VR4351 100K RCP1048-A-T
C4360 0.047/50
R4353 27K
R4354 47K
R4355 47 2W LF
Q4351 2SD438-T
R4356 18 1/4W
C4365 47/16
C4361 0.01/400
C4362 0.033/250
L4353
R4357 2.2K
Q4352 2SC1845-T
C4363 2.2/50
BIAS OSC
CN4001
CASSETTE MECHA UNIT
TAPE1 L
TAPE1 GND
TAPE1 R
KM250MA3
CN4002
CASSETTE MECHA UNIT
TAPE2 R
TAPE2 L
TAPE2 GND
ERASE GND
ERASE HEAD
KM250MA5
AF ASSY (RWZ3693)
REC AMP
R4325 470
IC4301 (1/2) NJM4558DXP
Q4305 2SC1740S-T
R4331 1K
C4301 0.068
R4301 68K
R4303 33K
R4305 33K
C4303 2700P
R4332 1K
Q4306 2SC1740S-T
Q4307 DTA124ES-T
R4329 2.2K
C4304 2700P
R4306 33K
R4304 33K
C4302 0.068
R4302 68K
Q4308 DTC143ES-T
R4326 470
IC4301 (2/2) NJM4558DXP
C4305 33/35
R4309 100
C4309 0.015
R4307 1.2K
L4301
C4307 8200P
C4308 8200P
L4302
R4308 1.2K
C4306 33/35
R4310 100
C4310 0.015
R4327 4.7K
Q4301 2SC1740S-T
R4328 4.7K
Q4302 2SC1740S-T
R4313
R4314

IC 4201	2C, 3C	1C, 4C
TAPE 1	L	H
TAPE 2	H	L

SCH-10 AF ASSY, REGULATOR ASSY,
REAR SP ASSY, PRIMARY ASSY
SECONDARY ASSY
(RX-590 AND RX-590S ONLY)


REGULATOR ASSY (RWZ3694)
NJM7812FA IC1012
NJM7812FA IC1013
NJM7912FA IC1014
C1022 47/50
C1023 10/50
C1025 10/50
C1024 10/50
C1026 10/50
NJM78M56FA IC1011
C1021 10/50
SIGNAL ROUTE
➡ : FRONT SIGNAL
⇨ : CENTER SIGNAL
: SURROUND (REAR) SIGNAL
: TAPE 2 PLAY SIGNAL
: FM/AM SIGNAL
REAR ASSY J7101 (➡SCH-6)
WARNING
+12V
BLOW
GND
AC
-12V
MUTE
M.+12V
CN1002 KPE8
REAR ASSY CN7102 (➡SCH-6)
C.IN
F.GND
S.IN
O.L
+B2
-B2
C.OUT
R.GND
S.OUT
KP250NA9 CN1003
FRONT ASSY CN7502 (➡SCH-5)
REF.GND
L OUT
R OUT
FAN
+B1
-B1
SHORT
L IN
F.GND
R IN
KP250NA10 CN1001
SCH - 10
H.P.SW
L (B) OUT
L IN
L (A) OUT
GND
R (A) OUT
R IN
R (B) OUT
HEADPHONE ASSY J1201 (➡SCH-9)
KPE8 CN203
SP A
SP B
L
R
AKE-111
REAR SP ASSY (RWZ3770)
SP8101 AKE1032
CENT. SP
REAR SP
SP8102 AKE1012
C.OUT
C.GND
S.OUT
S.GND
KPE8 CN301
AKT1022
J8108 D15A08-200-2651
R8101 7.5 1/4W
R8102 7.5 1/4W
C8101 0.1
C8103 0.1
C8102 0.1
C8104 0.1
PRIMARY ASSY (RWZ3695)
FU1 8A/125V REK1086
Y1101 ADX7039
Y1102 ADX7044
Y1125 ADX7001
Y1126 ADX7002
A1102 AKF-116
A1101 AKF-116
LIVE
NEUTRAL
AC120V 60Hz AC POWER CORD PDG1015
C1101 ACG1054
1P AC OUTLET AKP1015
C1 0.01/400 ACG1003
R1101 2.2M 1/4W
ACN-208 Y1107
LP PLAYER TURN TABLE J1001 AKN-203
T101 RTT1308
POWER TRANSFORMER
SECONDARY ASSY (RWZ3696)
AKT1021 D15A14-300-2651 J1101
B1AC1
B2AC1
GND
B2AC2
B1AC2
AC3
FL AC1
FL AC2
REG AC1
REG AC2
AKT1024 J1102 D15A03-350-2651
FU4,5 1.6A/125V REK1077
ICP-N50 IC1205
H1109,1110
H1107,1108
FU4
FU5
R1102 10 1/4W
R1103 10 1/4W
R1104 10 1/4W
R1105 10 1/4W
ACH1249 4700/71 C1002
ACH1249 4700/71 C1003
D5SB20F D1001
C1034 0.047
D1020, 1021, D1031, 1032: HSS104-02
ACH7006 3300/42 C1004
ACH7006 3300/42 C1005
D3SBA20 (B) D1011
D1006 S5566-T
D1007 S5566-T
D1008 S5566-T
D1009
C1006 2200/35
C1007 1000/35
D1301 S5566-T
R1302 12 1/2W
Q1301 2SB1237X
D1302 HSS104-02-TP
R1301 2.2K
C1302 33/50
C1301 100/63
D1303 MTZJ33B-T
R1010 10K
C1303 47/50
D1017 MTZJ7.5A-T
-50V
+50V
+33V
-33V
+19V
-19V
R1029 1.8K (1W)
R1301 13k
C1014 10/50
R1001 0.22 3W
R1002 0.22 3W
R1003 0.22 2W
R1004 0.22 2W
KN1001 VNF1084
CHASSIS
R1042 1K
R1040 1K
R1041 1K
R1043 1K
R1039 1K
R1038 1K
R1209 1/4W 7.5
R1210 1/4W 7.5
C1207 0.1/50
C1208 0.1/50
C1209 0.1/50
C1210 0.1/50
D1022 MTZJ7.5A-T
D1027 MTZJ7.5A-T
D1033 HSS104-02-T
C1017 47/25
R1014 62K
R1026 68K
R1037 10
D1026 HSS104-02-T
R1024 6.8K
Q1005 2SA1515-T
Q1004 2SA1515-T
R1013 1K
D1028 HSS104-02-T
R1021 22K
R1022 1/4W 680
R1018 22K
R1019 1/4W 680
C1032 2.2/50
C1031 2.2/50
R1032 1K
R1027 3.3K
D1024 HSS104-02-T
R1023 1.5K
Q1006 2SC1845-T
C1033 0.1
Q1007 2SA933S-T
R1020 910
D1025 HSS104-02-T
R1049 22K
Q1011 2SC3377-T
R4223 15K
R4222 1M
D4204 HSS104-02-T
Q4212 DTA124ES-T
R4224 15K
C4215 0.047
R4227 22K
Q4211 2SC1740S-T
R4229 4.7K
D4207 HSS104-02-T
C4311 10/50
R4321 27K
R4319 4.7K
VR4301 10K
RCP1045-A-T
D4301 HSS104-02-T
Q4303 2SC1740S-T
R4320 4.7K
VR4302 10K
Q4304 2SC1740S-T
R4322 27K
C4312 10/50
F4401 RTF1209
F4402 RTF1209
C4423 0.01
C4424 0.01
R4405 56K
R4406 56K
R4403 3K
R4404 3K
R4407 4.3K
R4408 4.3K
L4401 220
L4402 220
C4419
C4417 0.033/16
C4421 0.1/16
C4418 0.033/16
C4422 0.1/16
C4420 0.01/16
RCP1048-A-T
VR4401 100K
VR4402 100K
R4411 27K
R4412 27K
Q4401 2SC1740S-T
Q4402 2SC1740S-T
R4409 10K
R4410 10K
D4401
VR4403 20K
VR4404 20K
RCP1046-A-T
R4413 22K
C4401 0.68/50
C4402 0.68/50
Q4403 2SC1740S-T
C4403 10/50
D4402
D4403 HSS104-02-T
D4405
Q4404 2SC1740S-T
C4404 22/50
R4414 1M
Q4405 2SC1740S-T
Q4406 2SC1740S-T
R4415 1K
R4416 1K
R4417 470
R4418 470
D4404 HSS104-02-T
D4406 HSS104-02-T
DOLBY
C4405 2.2/50
C4406 2.2/50
C4407 100/16
C4408 0.047
C4410 100/10
C4409 0.68/50
C4411 0.68/50
R4419 43K
R4420 10K
R4428 2.2K
IC4401 CXA1100P
REC IN
GND
PB IN
IREF
REC/PB
LINE IN
TC
REC OUT
Vcc
Vcc/2
DON/OFF
12V
+6V
IC4401 : DOLBY NR
C4414 2.2/50
C4413 2.2/50
TP 4001 TAPE L
TP 4002 TAPE GND
TP 4003 TAPE R
R4423 8.2K
R4424 10K
R4425 10K
R4426 10K
R4427 2.2K
C4416 10/50
C4415 10/50
A (1:3)
B (1:4)
C (1:3)
D (1:7)

PIN	IC 4401 H	IC 4401 L
12	PLAY BACK	REC
5	Dolby ON	Dolby OFF

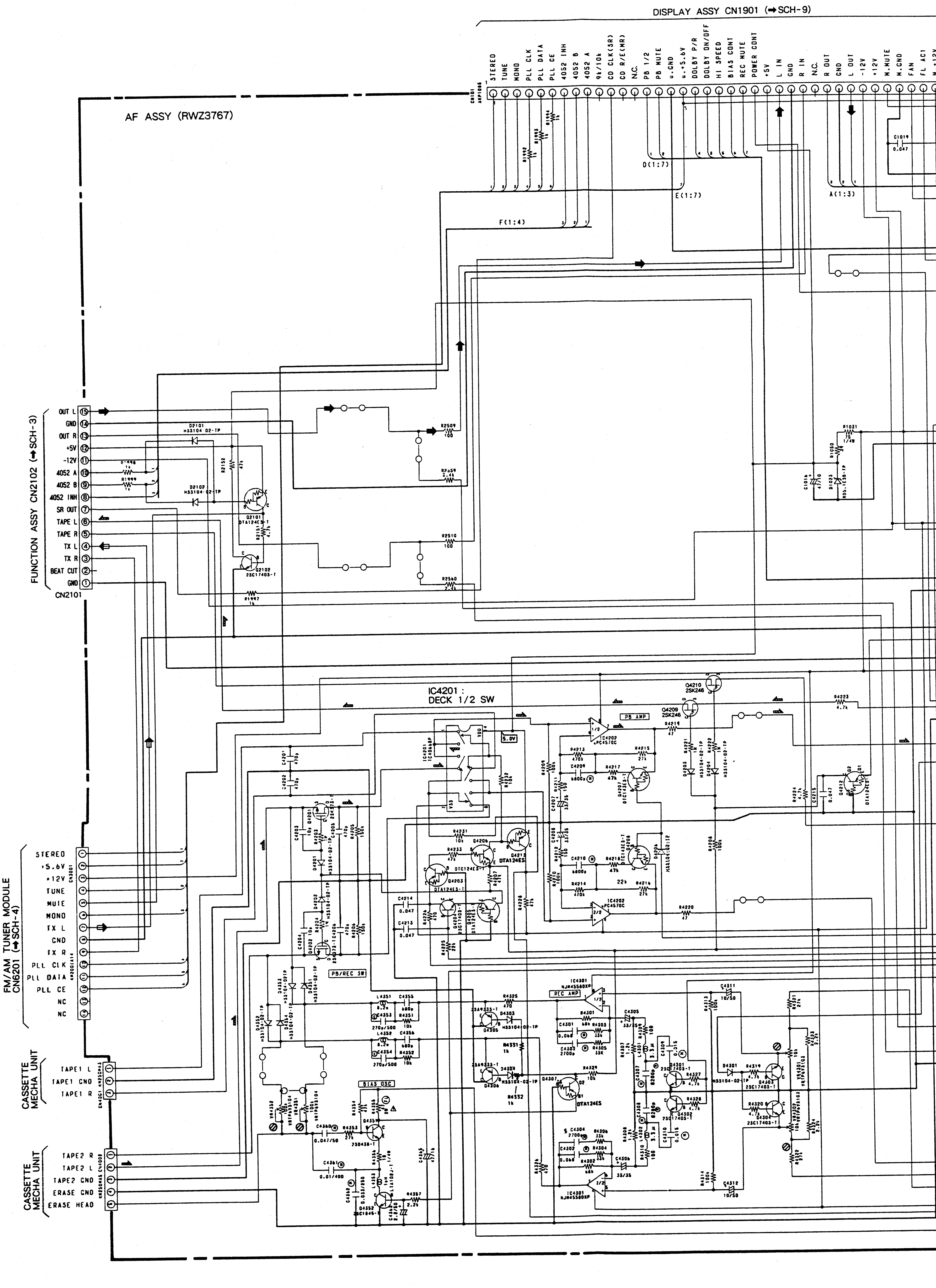
CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE NO. ICP-N50, MFD BY ROHM CO., LTD. FOR IC205.

• NOTE FOR FUSE REPLACEMENT
CAUTION — FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE AND RATINGS ONLY.

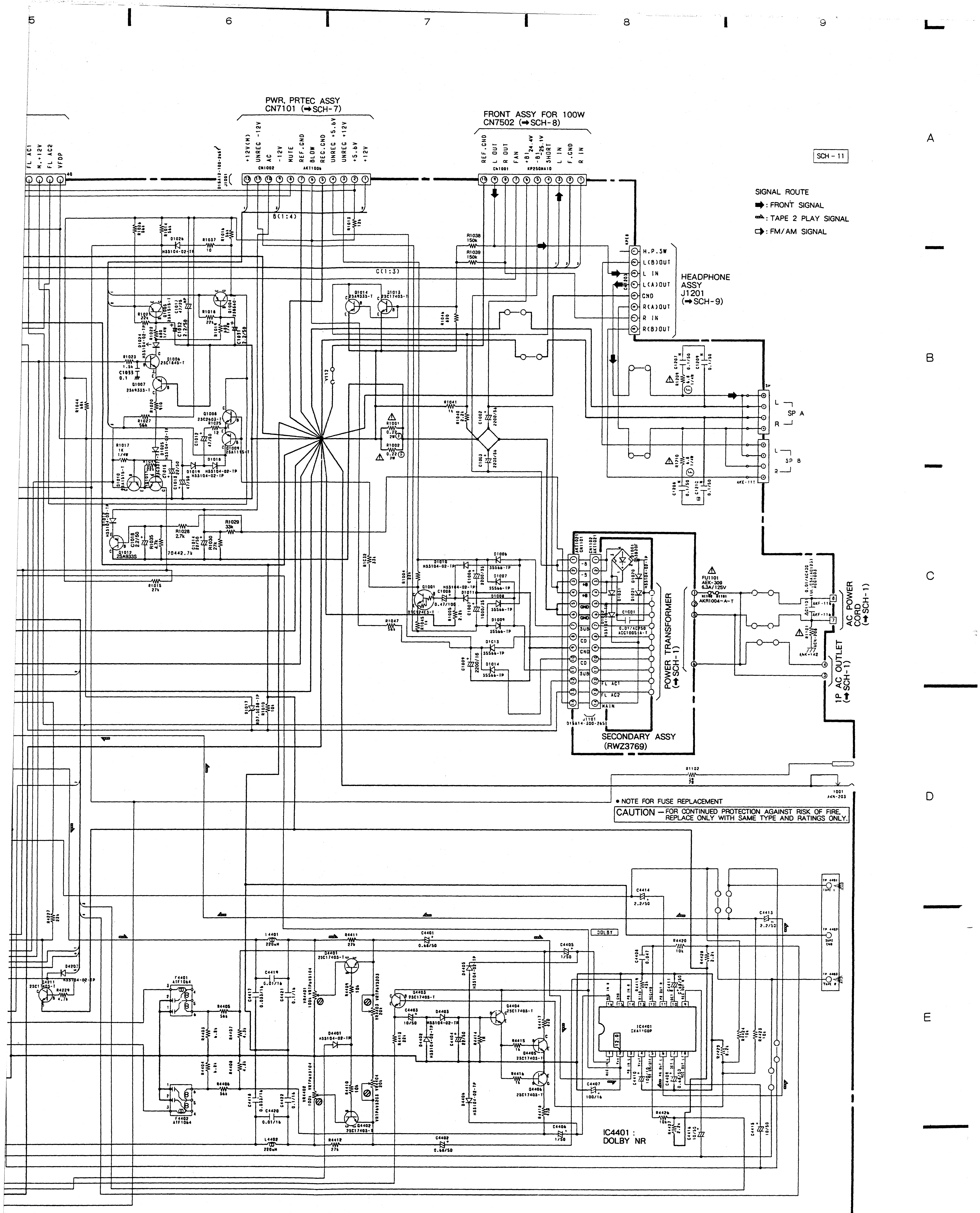
AF ASSY, REGULATOR ASSY,
REAR SP ASSY, PRIMARY ASSY
SECONDARY ASSY
(RX-590 AND RX-590S ONLY)

SCH-10

6.11 AF AND SECONDARY ASSEMBLIES (RX-390 ONLY)


DISPLAY ASSY CN1901 (➡SCH-9)
STEREO
TUNE
MONO
PLL CLK
PLL DATA
PLL CE
4052 INH
4052 B
4052 A
9k/10k
CD CLK(SR)
CD R/E(MR)
N.C.
PB 1/2
PB MUTE
u.GND
u.+5.6V
DOLBY P/R
DOLBY ON/OFF
HI SPEED
BIAS CONT
REC MUTE
POWER CONT
+5V
L IN
GND
R IN
N.C.
R OUT
GND
L OUT
-12V
+12V
M.MUTE
M.GND
FAN
FL AC1
AF ASSY (RWZ3767)
D(1:7)
E(1:7)
F(1:4)
A(1:3)
FUNCTION ASSY CN2102 (➡SCH-3)
OUT L
GND
OUT R
+5V
-12V
4052 A
4052 B
4052 INH
SR OUT
TAPE L
TAPE R
TX L
TX R
BEAT CUT
GND
CN2101
D2101
D2102
Q2101 DTA124ES-T
Q2102 2SC1740S-T
R2509 100
R2559 2.4k
R2510 100
R2560 2.4k
IC4201 : DECK 1/2 SW
Q4210 2SK246
Q4209 2SK246
PB AMP
IC4202 uPC4570C
5.6V
PB/REC SW
REC AMP
IC4301 NJM4558DXP
BIAS OSC
FM/AM TUNER MODULE CN6201 (➡SCH-4)
STEREO
+5.6V
+12V
TUNE
MUTE
MONO
TX L
GND
TX R
PLL CLK
PLL DATA
PLL CE
NC
NC
CASSETTE MECHA UNIT
TAPE1 L
TAPE1 GND
TAPE1 R
CASSETTE MECHA UNIT
TAPE2 R
TAPE2 L
TAPE2 GND
ERASE GND
ERASE HEAD

SCH-11 AF ASSY, SECONDARY ASSY (RX-390 ONLY)

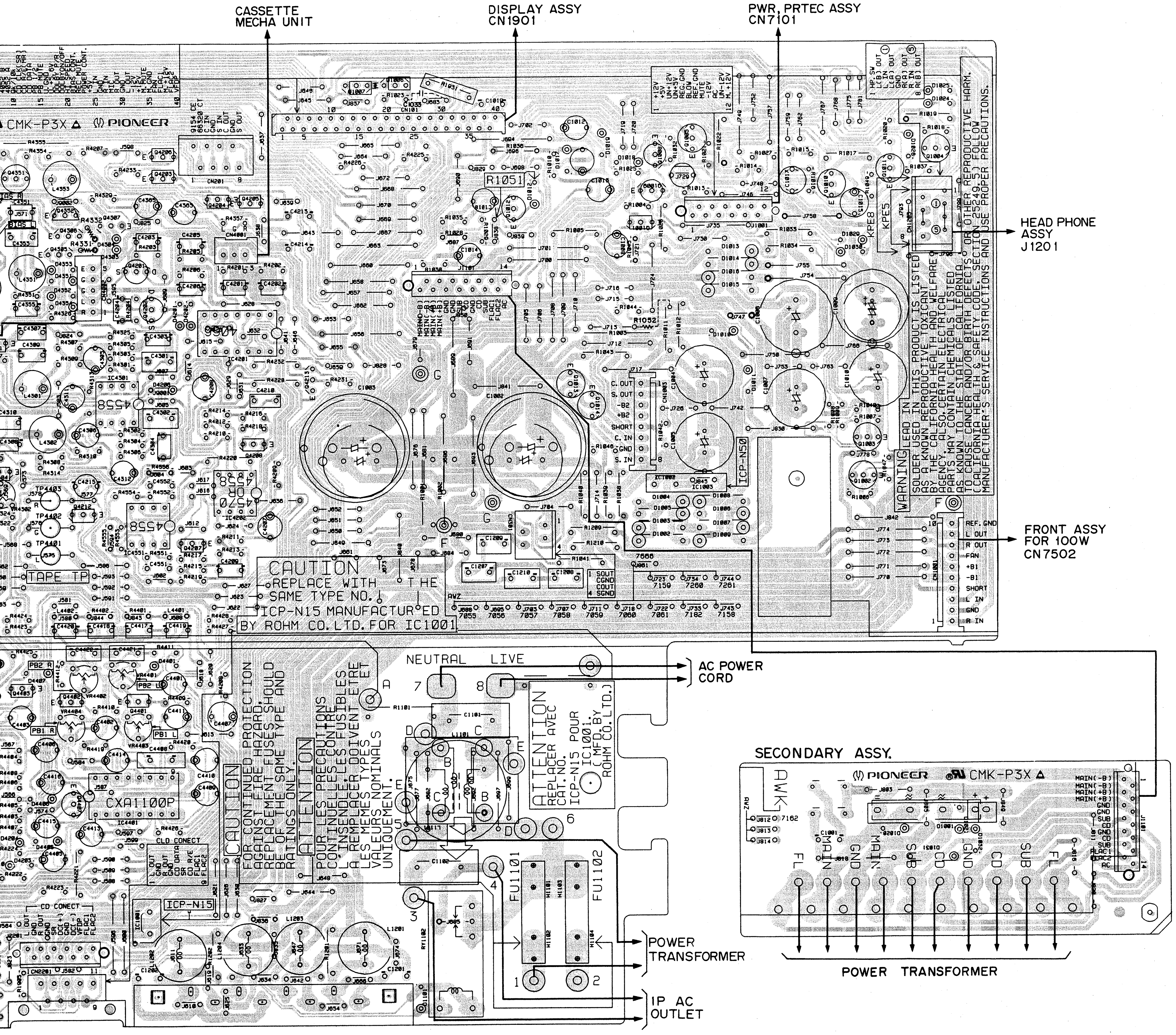

PWR, PRTEC ASSY
CN7101 (➡SCH-7)
+12V(M)
UNREG -12V
AC
-12V
MUTE
REF.GND
BLOW
REC.GND
UNREG +5.6V
UNREG +12V
+5.6V
+12V
CN1002
AKT1006
J1001
FRONT ASSY FOR 100W
CN7502 (➡SCH-8)
REF.GND
L OUT
R OUT
FAN
+B1 24.4V
-B1 25.1V
SHORT
L IN
F.GND
R IN
CN1001
KP250NA10
FL AC1
M.+12V
FL AC2
VFDP
SCH - 11
SIGNAL ROUTE
➡ : FRONT SIGNAL
: TAPE 2 PLAY SIGNAL
⇨ : FM/AM SIGNAL
H.P.SW
L(B)OUT
L IN
L(A)OUT
GND
R(A)OUT
R IN
R(B)OUT
HEADPHONE ASSY
J1201
(➡SCH-9)
SP A
SP B
L
R
FU1101
AEK-309
6.3A/125V
AKR1004-A-T
AC POWER CORD
(➡SCH-1)
1P AC OUTLET
(➡SCH-1)
POWER TRANSFORMER
(➡SCH-1)
SECONDARY ASSY
(RWZ3769)
FL AC1
FL AC2
MAIN
SUB
CD
GND
DOLBY
IC4401
CXA1100P
IC4401 :
DOLBY NR
TAPE 1
TAPE 2
5
6
7
8
9
A
B
C
D
E
F

• NOTE FOR FUSE REPLACEMENT

CAUTION — FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE AND RATINGS ONLY.

AF ASSY,
SECONDARY ASSY
(RX-390 ONLY)

SCH-11


CASSETTE MECHA UNIT
DISPLAY ASSY CN1901
PWR, PRTEC ASSY CN7101
HEAD PHONE ASSY J1201
FRONT ASSY FOR 100W CN7502
AC POWER CORD
NEUTRAL
LIVE
POWER TRANSFORMER
IP AC OUTLET
SECONDARY ASSY.
POWER TRANSFORMER
CMK-P3X
PIONEER
TAPE TP
CXA1100P
ICP-N15
ICP-N50
FU1101
FU1102
CAUTION REPLACE WITH THE SAME TYPE NO. ICP-N15 MANUFACTURED BY ROHM CO. LTD. FOR IC1001
ATTENTION REPLACER AVEC CAT. NO. ICP-N15 POUR IC1001. (MFD. BY ROHM CO. LTD.)
CAUTION FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACEMENT FUSES SHOULD BE OF THE SAME TYPE AND RATINGS ONLY.
ATTENTION POUR LES PRECAUTIONS CONTINUELLES CONTRE L'INCENDIE, LES FUSIBLES A REMPLACER DOIVENT ETRE LES MEMES TYPES VALEURS NOMINALS UNIQUEMENT.
WARNING

- This diagram is viewed from the mounted parts side.
- The parts mounted on this PCB include all necessary parts for several destinations.
  For further information for respective destinations, be sure to check with the schematic diagram.

7. PCB PARTS LIST

NOTES:

- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

Ex.1 When there are 2 effective digits(any digit apart from 0), such as 560 ohm and 47k ohm(tolerance is shown by J=5%, and K=10%).

560 Ω → 56 × 10^1 → 561 ······························ RD1/4PU$\boxed{5}\boxed{6}\boxed{1}$J
47k Ω → 47 × 10^3 → 473 ······························ RD1/4PU$\boxed{4}\boxed{7}\boxed{3}$J
0.5 Ω → 0R5 ······························ RN2H$\boxed{0}\boxed{R}\boxed{5}$K
1 Ω → 1R0 ······························ RS1P$\boxed{1}\boxed{R}\boxed{0}$K

Ex.2 When there are 3 effective digits(such as in high precision metal film resistors).

5.62k Ω → 562 × 10^1 → 5621 ······························ RN1/4PC$\boxed{5}\boxed{6}\boxed{2}\boxed{1}$F

■ LIST OF WHOLE PCB ASSEMBLIES

Mark	Symbol & Description	Part No.				Remarks
		RX-590 /KUXJ	RX-590S /KCXJ	RX-390 /KUXJ	RX-390 /KCXJ	
	FM/AM TUNER MODULE	AXQ3112	AXQ3112	AXQ3112	AXQ3112	
NSP	MAIN ASSY	RWM1862	RWM1862	Not used	Not used	
	├AF ASSY	RWZ3693	RWZ3693	Not used	Not used	
	├REGULATOR ASSY	RWZ3694	RWZ3694	Not used	Not used	
	├PRIMARY ASSY	RWZ3695	RWZ3695	Not used	Not used	
	├SECONDARY ASSY	RWZ3696	RWZ3696	Not used	Not used	
	└REAR SP ASSY	RWZ3770	RWZ3770	Not used	Not used	
NSP	AF ASSY	Not used	Not used	RWM1885	RWM1885	
	├AF ASSY	Not used	Not used	RWZ3767	RWZ3767	
	├FUNCTION ASSY	Not used	Not used	RWZ3768	RWZ3768	
	└SECONDARY ASSY	Not used	Not used	RWZ3769	RWZ3769	
	DOLBY COMP ASSY	RWM1886	RWM1886	Not used	Not used	
NSP	└DOLBY FUNC ASSY	RWZ3771	RWZ3771	Not used	Not used	
	DISPLAY ASSY	RWM1939	RWM1939	AWM7060 *1	AWM7060 *1	*1 : NSP
	├HEADPHONE ASSY	AWZ7163	AWZ7163	AWZ7262	AWZ7262	
	├DISPLAY ASSY	AWZ7165	AWZ7165	AWZ7164	AWZ7164	
	├POWER SW ASSY	AWZ7167	AWZ7167	AWZ7167	AWZ7167	
	├TAPE IND ASSY	AWZ7170	AWZ7170	AWZ7170	AWZ7170	
	└VOLUME ASSY	RWZ3965	RWZ3965	AWZ7168	AWZ7168	
	POWER AMP UNIT	RXQ7024	RXQ7024	Not used	Not used	
	├FRONT ASSY	RWZ3697	RWZ3697	Not used	Not used	
	└REAR ASSY	RWZ3698	RWZ3698	Not used	Not used	
	POWER MOD. F100	Not used	Not used	AXQ3117	AXQ3117	
	├FRONT ASSY FOR 100W	Not used	Not used	AWZ5453	AWZ5453	
	└PWR, PRTEC ASSY	Not used	Not used	AWZ5455	AWZ5455	

■ FOR RX-590 AND RX-590S

FM/AM TUNER MODULE

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC6201		LA1836M
	IC6202		LM7001J
	Q6102		2SC2223
	Q6203		2SC2235
	Q6202		2SC2712
	Q6103, Q6214		2SC2714
	Q6201		2SK208
	Q6104		2SK302
	Q6101		3SK194
	Q6204		XDA124EK
	Q6217		XDC124EK
	D6101, D6102		1T33

COILS AND FILTERS

Mark	No.	Description	Part No.
	L6104		ATC1003
	L6101		ATC1020
	L6102		ATC1021
	T6101		ATE-063
	L6207		ATE1013
	F6203, F6204		ATF-119
	F6101		ATF-155
	F6202		ATF1155
	L6103(2.2UH)		ATH1043
	L6202, L6203, L6208		LCTA2R2J3225

CAPACITORS

Mark	No.	Description	Part No.
	C6202, C6234, C6236(0.1μF/16V)		ACG1051
	C6107		CCSCH010C50
	C6229		CCSCH821J50
	C6110		CCSQCH020C50
	C6101		CCSQCH050C50
	C6108, C6203, C6268		CCSQCH101J50
	C6111, C6116, C6208, C6221, C6222		CCSQCH150J50
	C6115		CCSQCH330J50
	C6114		CCSQRH080D50
	C6113		CCSQRH180J50
	C6105		CCSQTH150J50
	C6261		CEAS010M50
	C6224, C6246, C6262		CEAS100M50
	C6227		CEAS101M10
	C6216, C6217		CEAS330M16
	C6231, C6233		CEAS3R3M50
	C6219		CEAS470M10
	C6243-C6245		CEAS470M16
	C6238		CEJA100M16
	C6249, C6250		CEJA4R7M35
	C6215		CFTXA103J50
	C6214		CFTXA224J50
	C6103, C6106, C6112, C6204		CKSQYB102K50
	C6102, C6109, C6117, C6210, C6264		CKSQYB103K50
	C6213		CKSQYB223K50
	C6230		CKSQYB333K50
	C6228, C6252		CKSQYB472K50
	C6209, C6237, C6265, C6267		CKSQYB473K50
	C6212, C6218		CKSQYF103Z50
	C6220, C6226, C6239, C6242, C6255		CKSQYF223Z50
	C6235		CKSQYF224Z25
	C6225, C6241, C6266		CKSQYF473Z50
	C6232		CKSYB333K50
	C6251		CKSYB472K50
	C6223		CKSYF103Z50
	C6263		CKSYF473Z50

RESISTORS

Mark	No.	Description	Part No.
	R6299, R6300		RD1/4PU102J
	R6113, R6116, R6118, R6268-R6271		RS1/8S000J
	R6275, R6276, R6278, R6283, R6284		RS1/8S000J
	R6290, R6293, R6294, R6297		RS1/8S000J
	R6243, R6244		RS1/8S101J
	R6211		RS1/8S103J
	R6237		RS1/8S182J
	R6209		RS1/8S221J
	R6239		RS1/8S332J
	R6101		RS1/8S470J
	VR6201(10kΩ)		ACP1056
	VR6202		VRTB6VS223
	Other Resistors		RS1/10S□□□J

OTHERS

Mark	No.	Description	Part No.
	BN6201	TERMINAL 4-P	AKA1016
	X6203	CRYSTAL RESONATOR	ASS1042
	X6201	CRYSTAL RESONATOR	ASS1066
	X6202	CERAMIC RESONATOR	ATF1027
		AM RF TUNING BLOCK	AXX1025
	CN6201	14P SOCKET	KP200IA14L

AF ASSY

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC4401		CXA1100P
	IC4301		NJM4558DXP
⚠	IC1011		NJM78M56FA
	IC4201		TC4066BP
	IC4202		UPC4570C
	Q1004, Q1005, Q2101		2SA1515
	Q1007		2SA933S
⚠	Q1301		2SB1237X
	Q4204, Q4211, Q4301-Q4306		2SC1740S
	Q4401-Q4406		2SC1740S
	Q1006, Q4352		2SC1845
	Q2102		2SC2458
	Q1011		2SC3377
	Q4351		2SD438
	Q4201, Q4202, Q4209, Q4210		2SK373
	Q4203, Q4205, Q4212, Q4213, Q4307		DTA124ES
	Q4206-Q4208, Q4308		DTC143ES
⚠	D1011		D3SBA20(B)
⚠	D1001		D5SB20F
	D1020, D1021, D1024-D1026, D1028		HSS104-02
	D1031-D1033, D1302, D2101-D2103		HSS104-02
	D4201-D4204, D4206, D4207, D4301		HSS104-02
	D4351-D4354, D4401-D4403		HSS104-02
	D4405, D4406		HSS104-02
	D1303		MTZJ33B

Mark	No.	Description	Part No.
	D1023		MTZJ5.1A
	D1017, D1022, D1027		MTZJ7.5A
⚠	D1006-D1009, D1301		S5566

COILS AND FILTERS

	L4401, L4402		LAU221J
	L4353		LTA102J
	L4301, L4302		LTA332J
	L4351, L4352		LTA822J
	F4401, F4402		RTF1209

CAPACITORS

⚠	C1101(0.01μF/400V)		ACG1054
	C1002, C1003(4700μF/63V)		ACH1249
	C1004, C1005(3300μF/56V)		ACH7006
	C4203, C4204		CCCSL100D50
	C4211, C4212		CCCSL220J50
	C4353, C4354		CCCSL271K500
	C1031, C1032		CEANP2R2M50
	C1017		CEANP470M25
	C1014, C1021, C4311, C4312, C4403		CEAS100M50
	C4415, C4416		CEAS100M50
	C4410		CEAS101M10
	C4407		CEAS101M16
	C1301		CEAS101M63
	C1007		CEAS102M35
	C4404		CEAS220M50
	C1006		CEAS222M35
	C4363, C4405, C4406, C4413, C4414		CEAS2R2M50
	C1302, C4207, C4208, C4305, C4306		CEAS330M35
	C1016, C4365		CEAS470M16
	C1303		CEAS470M50
	C4401, C4402, C4409, C4411		CEASR68M50
	C1033		CGCYF104Z50
	C4201, C4202, C4205, C4206		CKCYB471K50
	C1019, C4213-C4215, C4408		CKCYF473Z50
	C4419, C4420		CKCYX103M16
	C4421, C4422		CKCYX104M16
	C4417, C4418		CKCYX333M16
	C4355, C4356		CKPUYB681K50
	C1020		CKPUYF103Z25
	C4423, C4424		CQMA103J50
	C4361		CQMA103K400
	C1207-C1210		CQMA104J50
	C4309, C4310		CQMA153J50
	C4303, C4304		CQMA272J50
	C4362		CQMA333K250
	C4360		CQMA473J50
	C4209, C4210		CQMA682J50
	C4301, C4302		CQMA683J50
	C4307, C4308		CQMA822J50
	C1034		CQMA473K250

RESISTORS

⚠	R1101(2.2MΩ, 1/2W)		ACN-208
	R1302		RD1/2PMF120J
	R1102-R1105		RD1/4PM100J
	R4356		RD1/4PM180J
	R1019, R1022		RD1/4PM681J

Mark	No.	Description	Part No.
	R1031		RD1/4PM750J
	R1209, R1210		RD1/4PMF7R5J
	R1029		RS1LMF182J
	R4355		RS2LMF470J
	R1003, R1004		RS2LMFR22J
	R1001, R1002		RS3LMFR22J
	VR4301, VR4302(10kΩ)		RCP1045
	VR4403, VR4404(22kΩ)		RCP1046
	VR4351, VR4352, VR4401, VR4402 (100kΩ)		RCP1048
	Other Resistors		RD1/4PU□□□J

OTHERS

		8P SPEAKER TERMINAL	AKE-111
		DC JACK	AKN-203
	CN101	40P SOCKET	AKP1085
	CN2202	13P PLUG	KM200IA13
	CN3001	14P PLUG	KM200IA14
	CN2101	17P PLUG	KM200IA17
	CN4001	3P PLUG	KM250MA3
	CN4002	5P PLUG	KM250MA5
	CN1001	10P SOCKET	KP250NA10
	CN1003	9P SOCKET	KP250NA9
	CN9997	6P JUMPER CONNECTOR	KPE6
	CN1002, CN201, CN203, CN301	8P JUMPER CONNECTOR	KPE8
		PCB BINDER	VEF1040
	KN1001	EARTH PLATE	VNF1084

REGULATOR ASSY

SEMICONDUCTORS

Mark	No.	Description	Part No.
⚠	IC1012, IC1013		NJM7812FA
⚠	IC1014		NJM7912FA

CAPACITORS

Mark	No.	Description	Part No.
	C1023-C1026		CEAS100M50
	C1022		CEAS470M50

PRIMARY ASSY

OTHERS

Mark	No.	Description	Part No.
	Y1101	BOARDIN LEAD WIRE	ADX7039
	Y1104	BOARDIN LEAD WIRE	ADX7044

SECONDARY ASSY

SEMICONDUCTOR

Mark	No.	Description	Part No.
⚠	IC1205		ICP-N50

REAR SP ASSY

CAPACITORS

Mark	No.	Description	Part No.
	C8101-C8104		CQMA104J50

RESISTORS

Mark	No.	Description	Part No.
	All Resistors		RD1/4PM□□□J

OTHERS

Mark	No.	Description	Part No.
		4P SPEAKER TERMINAL	AKE1012
	CN8101	2P SPEAKER TERMINAL	AKE1032

DOLBY COMP ASSY

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC1602		LA2780N
	IC1603		LC32256P-80
	IC1601		LV1001M-A
	IC1604		M66320P
	IC1606-IC1609, IC2101, IC2103		NJM4558DXP
	IC2102		TC4052BP
	IC1605		TC4066BP
	IC1610		TC9154AP
	Q1605, Q1606		2SC2878
	Q1601		2SD438
	Q1603, Q1604		DTA124ES
	Q1602		DTC124ES
	D701-D704		HSS104-02
	D2101		RD5.1ESB
	D1601-D1603		RD6.2ESB

CAPACITORS

Mark	No.	Description	Part No.
	C1648, C1655		CCCSL151J50
	C1668		CCCSL221J50
	C1691, C1692		CCPUSL680J50
	C1613, C1614, C1624, C1625		CEANL2R2M50
	C1633		CEANP100M35
	C1646		CEANPR33M50
	C1636		CEAS010M50
	C1607, C1608, C1637, C1641-C1643		CEAS100M50
	C1645, C1674, C2110, C2113		CEAS100M50
	C1619		CEAS101M16
	C1667		CEAS221M10
	C1656, C1657		CEAS221M16
	C1658		CEAS221M25
	C1601, C1602, C1663, C1664		CEAS2R2M50
	C1669, C1670, C1672, C1673		CEAS2R2M50
	C2103, C2104		CEAS3R3M50
	C2109		CEAS470M16
	C1618		CEAS470M25
	C1671		CEAS471M16
	C1651, C1652		CEAS4R7M50
	C1615, C1626		CEASR15M50
	C1629		CEASR22M50
	C1616, C1627		CEYA3R3M50
	C1609, C1620		CEYAR33M50
	C1605		CFTXA103J50
	C1603, C1610, C1611, C1622, C1623		CFTXA104J50
	C1660		CFTXA104J50
	C1606		CFTXA153J50
	C1617, C1628, C1647		CFTXA154J50
	C1649, C1654		CFTXA223J50
	C1632		CFTXA333J50
	C1662		CFTXA334J50
	C1661		CFTXA473J50
	C1630		CFTXA683J50
	C1650, C1653		CKCYB102K50
	C1666		CKCYB103K50
	C1681		CKCYB152K50
	C1676, C1679, C1680		CKCYB331K50
	C1638		CKCYB471K50
	C1635		CKCYB562K50
	C1604, C1612, C1621, C1644		CKCYB681K50
	C1695		CKCYB682K50
	C1665		CKCYX104M16
	C1659		CKCYX104M25
	C1675		CKCYX473M25
	C2101, C2102		CKPUYB101K50
	C1693, C1694		CKPUYX122N16
	C2105, C2106		CKPUYX152N16
	C2107, C2108		CKPUYX562N16
	C1631		CQMA392J50
	C1634		CQMA472J50
	C1639		CQMA562J50
	C1640		CQMA682J50

RESISTORS

Mark	No.	Description	Part No.
	VR1601		VRTB6VS223
	Other Resistors		RD1/4PU□□□J

Mark	No.	Description	Part No.

OTHERS

Mark	No.	Description	Part No.
	X1601	CERAMIC RESONATOR(8.00MHz)	ASS1015
		6P PIN JACK	AKB1121
	CN8106	MINI JACK	AKN-207
		MINI JACK	AKN1020
	CN2202	13P SOCKET	KP200IA13L
	CN2102	17P SOCKET	KP200IA17L

HEADPHONE ASSY

SWITCH

Mark	No.	Description	Part No.
	S1201		ASG-413

CAPACITOR

Mark	No.	Description	Part No.
	C1201		CKCYF473Z50

RESISTORS

Mark	No.	Description	Part No.
	R1207, R1208		RS2LMF621J
	R1205, R1206		RS2LMF681J

OTHERS

Mark	No.	Description	Part No.
	CN1201	HEADPHONE JACK	AKN1025

DISPLAY ASSY

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC3101, IC3102		BA3812L
	IC3501, IC3701-IC3703		NJM4558DXP
	IC1901		PDG110A
	Q1901, Q3501, Q3502		2SC1740S
	Q4951		DTA124ES
	Q1720, Q8951, Q8953, Q8954		DTA143ES
	Q1910, Q4952		DTC124ES
	Q1711-Q1715, Q1718, Q1719, Q1921		DTC143ES
	Q8952, Q8961		DTC143ES
	D1720, D8952		AEL1038
	D1711-D1715, D1718, D1719		AEL1148
	D1731, D1801-D1806, D1901-D1903		HSS104-02
	D1910, D3101, D3102, D3701-D3705		HSS104-02
	D4961, D4962, D8951, D8953-D8956		HSS104-02

COIL

Mark	No.	Description	Part No.
	L1901		LAU220K

SWITCHES

Mark	No.	Description	Part No.
	S1810-S1827, S1830-S1835		ASG1034

CAPACITORS

Mark	No.	Description	Part No.
	C1906		ACH1246
	C3125, C3126		CCCSL121J50
	C1902		CEAS010M50
	C1922		CEAS100M50
	C8951		CEAS221M10
	C1909		CEAS221M16
	C3551, C3552		CEAS2R2M50
	C3129-C3132		CEAS470M16
	C3127, C3128, C3133, C3134, C8952		CEAS4R7M50
	C3109, C3110		CEASR15M50
	C3117, C3118		CEASR68M50
	C1901		CEJA010M50
	C1905		CEJA470M16
	C1903, C1911		CKCYB102K50
	C3704, C3709		CKCYB152K50
	C3113, C3114		CKCYB182K50
	C3121, C3122		CKCYB391K50
	C3107, C3108		CKCYB392K50
	C3705, C3710		CKCYB471K50
	C3703, C3708		CKCYB472K50
	C3119, C3120		CKCYB682K50
	C1904, C1908, C1931, C3501, C3502		CKCYF473Z50
	C1923		CKCYX104M25
	C3111, C3112, C3702, C3707		CKCYX153M16
	C3105, C3106		CKCYX183M16
	C3115, C3116		CKCYX393M16
	C3701, C3706, C3711-C3715		CKCYX473M16
	C1921		CKCYX473M25
	C3103, C3104		CKCYX683M16
	C1971		CKDYB152K50
	C3503, C3504		CQMA223J50
	C3505, C3506		CQMA683J50

RESISTORS

Mark	No.	Description	Part No.
	R8955, R8956		RD1/4PM120J
	VR4951, VR4952(4.7kΩ)		ACP1055
	VR3551(500kΩ)		ACS1105
	VR3101-VR3105(100kΩ)		ACU1030
	Other Resistors		RD1/4PU□□□J

OTHERS

Mark	No.	Description	Part No.
	X1911	CERAMIC RESONATOR(8.00MHz)	ASS1015
	V1701	FL TUBE	AAV7005
	CN1901	40P SOCKET	AKP1085

POWER SW ASSY

SEMICONDUCTORS

Mark	No.	Description	Part No.
	Q1701		2SA933S
	D1701		AEL1148
	D1721		HSS104-02

SWITCHES

Mark	No.	Description	Part No.
	S1801-S1806		ASG1034

RESISTORS

Mark	No.	Description	Part No.
	All Resistors		RD1/4PU□□□J

TAPE IND ASSY

SEMICONDUCTORS

Mark	No. Description	Part No.
	Q1716, Q1717	2SA933S
	D1717	AEL1148
	D1716	AEL1158
	D1722, D1723	HSS104-02

SWITCHES

Mark	No. Description	Part No.
	S1840, S1841	ASG1034

RESISTORS

Mark	No. Description	Part No.
	All Resistors	RD1/4PU□□□J

VOLUME ASSY

SEMICONDUCTORS

Mark	No. Description	Part No.
	IC1501, IC1601	NJM4558DXP
	IC1502	TA8409S

CAPACITORS

Mark	No. Description	Part No.
	C1507	CEAS101M25
	C1501-C1506, C1601, C1602, C1604	CEAS4R7M50
	C1651, C1652, C1654	CEAS4R7M50
	C1508	CKCYF473Z50
	C1603, C1653	CKDYB471K50

RESISTORS

Mark	No. Description	Part No.
	VR1601 (100kΩ × 4)	ACX1088
	Other Resistors	RD1/4PU□□□J

POWER AMP UNIT

SEMICONDUCTORS

Mark	No. Description	Part No.
⚠	Q15, Q16, Q55, Q56	2SA1264N
⚠	Q13, Q14, Q53, Q54	2SA1837
⚠	Q17, Q18, Q57, Q58	2SC3181N
⚠	Q11, Q12, Q51, Q52	2SC4793

OTHERS

Mark	No. Description	Part No.
	DC FAN MOTOR	AXM7003

FRONT ASSY

SEMICONDUCTORS

Mark	No. Description	Part No.
	IC7501	UPC4570G2(5)
	Q7507, Q7508	2SA1182
	Q7401	2SA1255
	Q7501, Q7502	2SC2240
	Q7505, Q7506	2SC2859
	Q7403, Q7405	2SC3138
	D7505, D7506, D7517, D7518	1SS181
	D7503, D7504, D7516	1SS184
	D7535-D7538	1SS226
	D7521-D7524	1SS244
	D7519, D7520, D7525, D7526, D7531	HSS104-02
	D7533	HSS104-02
	D7507-D7510	RD3.3ESB2

CAPACITORS

Mark	No. Description	Part No.
	C7519-C7522, C7545-C7552	CCSQCH101J50
	C7525-C7528	CCSQCH271J50
	C7503, C7504	CCSQCH331J50
	C7541, C7542	CCSQCH470J50
	C7523, C7524	CEALR10M50
	C7509, C7510	CEAS101M10
	C7540	CEJA3R3M50
	C7419	CEJA470M16
	C7539	CEJA4R7M50
	C7405	CKSQYB104K25
	C7529-C7532	CKSQYB333K50
	C7543, C7544	CKSQYB472K50
	C7401, C7403	CKSQYF104Z50
	C7537	CKSQYF473Z50

RESISTORS

Mark	No. Description	Part No.
	R7515, R7516 (1.8k, 1/10W)	ACN1107
⚠	R7541, R7542	RD1/4PMF100J
	R7519, R7520	RN1/10SE621D
⚠	R7529-R7536	RS1/10S101J
⚠	R7547-R7550	RS1/10S2200F
	R7853	RS1/8S000J
⚠	R7537-R7540	RS1/8S100J
	R7553	RS1/8S101J
⚠	R7543, R7544	RS1/8S7R5J
	Other Resistors	RS1/10S□□□J

OTHERS

Mark	No. Description	Part No.
	CN7502 10P PLUG	KM250NA10L

REAR ASSY

SEMICONDUCTORS

Mark	No. Description	Part No.
	IC7201	PAC006C
	IC7101	UPC4570G2
	Q7605, Q7606	2PD601A
	Q7204	2SA1162
	Q7107, Q7108	2SA1182
	Q7601	2SA1255
	Q7301, Q7302	2SC1815
	Q7101, Q7102	2SC2240
	Q7202, Q7203	2SC2712
	Q7105, Q7106	2SC2859
	Q7603, Q7604	2SC3138
	Q7607	DTA124EK
	D7105, D7106, D7117, D7118	1SS181
	D7103, D7104, D7116, D7204, D7212	1SS184
	D7135-D7138	1SS226
	D7121-D7124	1SS244
	D7119, D7120, D7125, D7126, D7131	HSS104-02
	D7133, D7205, D7208	HSS104-02
	D7210	RB441Q-40
	D7107-D7110	RD3.3ESB2
	D7206, D7211	RD4.7ESB
	D7207	RD5.6ESB2

CAPACITORS

Mark	No. Description	Part No.
	C7204 (0.1F/16V)	ACG1051
	C7119-C7122, C7145-C7152	CCSQCH101J50
	C7125-C7128	CCSQCH271J50
	C7103, C7104	CCSQCH331J50
	C7141, C7142	CCSQCH470J50
	C7220	CEAL010M50
	C7123, C7124	CEALR10M50
	C7202	CEANL4R7M50
	C7109, C7110	CEAS101M10
	C7205	CEJA221M10
	C7140	CEJA3R3M50
	C7139	CEJA4R7M50
	C7203	CEJAR33M50
	C7201, C7208, C7219, C7697	CKSQYB103K50
	C7301	CKSQYB332K50
	C7129-C7132	CKSQYB333K50
	C7143, C7144	CKSQYB472K50
	C7206, C7215, C7216, C7601, C7603	CKSQYF104Z50
	C7698	CKSQYF104Z50
	C7137	CKSQYF473Z50

RESISTORS

Mark	No. Description	Part No.
	R7115, R7116 (1.8k, 1/10W)	ACN1107
⚠	R7141, R7142	RD1/4PMF100J
	R7119, R7120	RN1/10SE621D
⚠	R7129-R7136	RS1/10S101J
⚠	R7147-R7150	RS1/10S2200F
	R7623, R7753, R7759, R7760	RS1/8S000J
⚠	R7137-R7140	RS1/8S100J
	R7153	RS1/8S101J
	R7145	RS1/8S223J
⚠	R7143, R7144	RS1/8S7R5J
	VR7201 (22kΩ)	RCP1103
	Other Resistors	RS1/10S□□□J

OTHERS

Mark	No. Description	Part No.
	CN7102 9P PLUG	KM250NA9L
	PCB BINDER	VEF1040

■ FOR RX – 390

FM/AM TUNER MODULE

FM/AM TUNER MODULE of RX-390 is the same as that of RX-590 and RX-590S.

AF ASSY

SEMICONDUCTORS

Mark	No. Description	Part No.
	IC4401	CXA1100P
	IC4301	NJM4558DXP
	IC4201	TC4066BP
	IC4202	UPC4570C
	Q1009	2SA1115
	Q1005, Q1010	2SA1515
	Q1007, Q1012, Q1014, Q4305, Q4306	2SA933S
	Q1004	2SB560
	Q1013, Q2102, Q4204, Q4211	2SC1740S
	Q4301-Q4304, Q4401-Q4406	2SC1740S
	Q1006, Q4352	2SC1845
	Q1008	2SC2603
	Q1011	2SC3377
	Q4351	2SD438
	Q4209, Q4210	2SK246
	Q4201, Q4202	2SK373
	Q2101, Q4203, Q4205, Q4212, Q4213	DTA124ES
	Q4307	DTA124ES
	Q1001, Q4206	DTC124ES
	Q4207, Q4208	DTC143ES
	D1010-D1012, D1018, D1019	HSS104-02
	D1024-D1026, D2101, D2102	HSS104-02
	D4201-D4204, D4206, D4207, D4301	HSS104-02
	D4303, D4304, D4351-D4354	HSS104-02
	D4401-D4403, D4405, D4406	HSS104-02
	D1023	RD5.1ESB
	D1017	RD7.5ESB
	D1006-D1009, D1013, D1014	S5566

COILS AND FILTERS

Mark	No. Description	Part No.
	F4401, F4402	ATF1064
	L4401, L4402	LAU221J
	L4353	LTA102J
	L4301, L4302	LTA332J
	L4351, L4352	LTA822J

CAPACITORS

Mark	No. Description	Part No.
	C1101 (0.01μF/400V)	ACG1003
	C1002, C1003 (4700μF/63V)	ACH1249
	C4203, C4204	CCCSL100D50
	C4353, C4354	CCCSL271K500
	C1031, C1032	CEANP2R2M50
	C1017	CEANP470M25
	C4405, C4406	CEAS010M50
	C4311, C4312, C4403, C4415, C4416	CEAS100M50
	C4410	CEAS101M10
	C4407	CEAS101M16

Mark	No.	Description	Part No.
	C1007		CEAS102M35
	C1014, C1015, C4404		CEAS220M50
	C1009		CEAS222M16
	C1006		CEAS222M35
	C1018, C4363, C4413, C4414		CEAS2R2M50
	C4207, C4208, C4305, C4306		CEAS330M35
	C1016		CEAS470M10
	C4365		CEAS470M16
	C1012, C1013		CEAS470M50
	C1008		CEASR47M100
	C4401, C4402, C4409, C4411		CEASR68M50
	C4201, C4202, C4205, C4206		CKCYB471K50
	C4355, C4356		CKCYB681K50
	C1019, C4213-C4215, C4408		CKCYF473Z50
	C4419, C4420		CKCYX103M16
	C4421, C4422		CKCYX104M16
	C4417, C4418		CKCYX333M16
	C1033		CKDYX104M25
	C4361		CQMA103K400
	C1207-C1210		CQMA104J50
	C4309, C4310		CQMA153J50
	C4303, C4304		CQMA272J50
	C4362		CQMA333K250
	C4360		CQMA473J50
	C4209, C4210		CQMA682J50
	C4301, C4302		CQMA683J50
	C4307, C4308		CQMA822J50

RESISTORS

Mark	No.	Description	Part No.
⚠	R1101 (2.2MΩ, 1/2W)		ACN-208
	R4356		RD1/4PM180J
	R1031		RD1/4PM750J
⚠	R1209, R1210		RD1/4PMF6R8J
	R1044		RN1/4PC1303F
	R1013		RN1/4PC2002F
	R1015		RN1/4PC2702F
	R1027		RN1/4PC4302F
	R1014, R1016, R1026		RN1/4PC5602F
	R1052		RN1/4PC8201F
	R1102		RS2LMF390J
⚠	R4355		RS2LMF470J
⚠	R1001, R1002		RS2LMFR22J
	VR4301, VR4302		VRTP6VS103
	VR4351, VR4352, VR4401, VR4402		VRTP6VS104
	VR4403, VR4404		VRTP6VS203
	Other Resistors		RD1/4PU□□□J

OTHERS

Mark	No.	Description	Part No.
		8P SPEAKER TERMINAL	AKE-111
		DC JACK	AKN-203
	CN101	40P SOCKET	AKP1085
		EARTH PLATE	ANK-142
	CN3001	14P PLUG	KM200IA14
	CN2101	15P PLUG	KM200IA15
	CN4001	3P PLUG	KM250MA3
	CN4002	5P PLUG	KM250MA5
	CN1001	10P SOCKET	KP250NA10
	CN1203	8P JUMPER CONNECTOR	KPE8

FUNCTION ASSY

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC2101, IC2103		NJM4558DXP
	IC2102		TC4052BP

CAPACITORS

Mark	No.	Description	Part No.
	C2103, C2104		CEAS3R3M50
	C2109, C2110		CEAS470M16
	C2111, C2112		CKCYF473Z50
	C2101, C2102		CKPUYB101K50
	C2105, C2106		CKPUYX152N16
	C2107, C2108		CKPUYX562N16

RESISTORS

Mark	No.	Description	Part No.
	All Resistors		RD1/4PU□□□J

OTHERS

Mark	No.	Description	Part No.
		6P PIN JACK	AKB1121
	CN8106	MINI JACK	AKN-207
	CN2102	15P SOCKET	KP200IA15L

SECONDARY ASSY

SEMICONDUCTORS

Mark	No.	Description	Part No.
	D1001		D5SB20F
	D1020, D1021, D1031, D1032		HSS104-02

CAPACITOR

Mark	No.	Description	Part No.
	C1001 (0.01μF/150V)		ACG1005

HEADPHONE ASSY

SWITCH

Mark	No.	Description	Part No.
	S1201		ASG-413

CAPACITOR

Mark	No.	Description	Part No.
	C1201		CKCYF473Z50

RESISTORS

Mark	No.	Description	Part No.
	R1207, R1208		RS2LMF621J
	R1205, R1206		RS2LMF681J

OTHERS

Mark	No.	Description	Part No.
		HEADPHONE JACK	AKN1010

DISPLAY ASSY

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC3101, IC3102		BA3812L
	IC3501, IC3701-IC3703		NJM4558DXP
	IC1901		PDG110A
	Q1901, Q3501, Q3502		2SC1740S
	Q4951		DTA124ES
	Q8951		DTA143ES
	Q1910, Q4952		DTC124ES
	Q1711-Q1715, Q1921, Q8952, Q8961		DTC143ES
	D1711-D1715		AEL1148

Mark	No.	Description	Part No.
	D1731, D1801-D1806, D1901-D1903		HSS104-02
	D1910, D3101, D3102, D3701-D3705		HSS104-02
	D4961, D4962, D8951		HSS104-02

COIL

	L1901		LAU220K

SWITCHES

	S1810-S1827		ASG1034

CAPACITORS

	C1906		ACH1246
	C3125, C3126		CCCSL121J50
	C1902		CEAS010M50
	C1922		CEAS100M50
	C1909		CEAS221M16
	C3551, C3552		CEAS2R2M50
	C3129-C3132		CEAS470M16
	C3127, C3128, C3133, C3134		CEAS4R7M50
	C3109, C3110		CEASR15M50
	C3117, C3118		CEASR68M50
	C1901		CEJA010M50
	C1905		CEJA470M16
	C1903, C1911		CKCYB102K50
	C3704, C3709		CKCYB152K50
	C3113, C3114		CKCYB182K50
	C3121, C3122		CKCYB391K50
	C3107, C3108		CKCYB392K50
	C3705, C3710		CKCYB471K50
	C3703, C3708		CKCYB472K50
	C3119, C3120		CKCYB682K50
	C1904, C1908, C1931, C3501, C3502		CKCYF473Z50
	C1923		CKCYX104M25
	C3111, C3112, C3702, C3707		CKCYX153M16
	C3105, C3106		CKCYX183M16
	C3115, C3116		CKCYX393M16
	C3701, C3706, C3711-C3715		CKCYX473M16
	C1921		CKCYX473M25
	C3103, C3104		CKCYX683M16
	C1971		CKDYB472K50
	C3503, C3504		CQMA223J50
	C3505, C3506		CQMA683J50

RESISTORS

	VR4951, VR4952(4.7kΩ)		ACP1055
	VR3551(500kΩ)		ACS1105
	VR3101-VR3105(100kΩ×2)		ACU1030
	Other Resistors		RD1/4PU□□□J

OTHERS

	X1911	CERAMIC RESONATOR(8.00MHz)	ASS1015
	V1701	FL TUBE	AAV7005
	CN1901	40P SOCKET	AKP1085

POWER SW ASSY

POWER SW ASSY of RX-390 is the same as that of RX-590 and RX-590S.

Mark	No.	Description	Part No.

TAPE IND ASSY

TAPE IND ASSY of RX-390 is the same as that of RX-590 and RX-590S.

VOLUME ASSY

SEMICONDUCTORS

	IC1501		NJM4558DXP
	IC1502		TA8409S
	D1501-D1508		HSS104-02

CAPACITORS

	C1507		CEAS101M25
	C1501-C1504		CEAS4R7M50
	C1505, C1506		CEASR22M50
	C1508		CKCYF473Z50
	C1511, C1512		CQMA154J50

RESISTORS

	VR1501(100kΩ×2)		ACX1089
	Other Resistors		RD1/4PU□□□J

POWER MOD. F100

SEMICONDUCTORS

	IC7404		MC7805CT
	IC7401, IC7403		MC7812CT
	IC7402		NJM7912A
⚠	Q7511, Q7512		2SA1264N
	Q7509, Q7510		2SA1837
⚠	Q7513, Q7514		2SC3181N
	Q7503, Q7504		2SC4793

OTHERS

		PCB FOR POWER MODULE	ANP1734
		FAN MOTOR	AXM1019

FRONT ASSY FOR 100W

SEMICONDUCTORS

	IC7501		UPC4570G2
	IC7701, IC7702		XRA4558F-P
	Q7507, Q7508		2SA1182
	Q7601		2SA1255
	Q7501, Q7502		2SC2240
	Q7605, Q7606, Q7703		2SC2712
	Q7505, Q7506		2SC2859
	Q7603		2SC3138
	Q7704		XDC143EK
	D7505, D7506, D7517, D7518		1SS181
	D7503, D7504, D7516		1SS184
	D7521-D7524		1SS244
	D7519, D7520, D7525, D7526, D7531		HSS104-02
	D7533, D7701-D7704, D7707		HSS104-02
	D7710-D7714		HSS104-02
	D7507-D7510		RD3.3ESB2

CAPACITORS

Mark	No.	Description	Part No.
	C7703		ACG1051
	C7523, C7524 (10µF/35V)		ACH1150
	C7509, C7510 (47µF/16V)		ACH1151
	C7539, C7540 (22µF/16V)		ACH1248
	C7519-C7522, C7545-C7552		CCSQCH101J50
	C7525-C7528		CCSQCH271J50
	C7503, C7504		CCSQCH331J50
	C7541, C7542		CCSQCH470J50
	C7529-C7532		CKSQYB333K50
	C7543, C7544		CKSQYB472K50
	C7602		CKSQYF103Z50
	C7601, C7603, C7702		CKSQYF104Z50
	C7537		CKSQYF473Z50

RESISTORS

Mark	No.	Description	Part No.
	R7519, R7520 (63k, 1/10W))		ACN1106
	R7515, R7516 (1.8k, 1/10W)		ACN1107
⚠	R7541, R7542		RD1/4PMF100J
	R7711		RS1/10S1001F
⚠	R7529-R7536		RS1/10S101J
⚠	R7547-R7550		RS1/10S2200F
	R7709		RS1/10S39R0F
	R7710		RS1/10S56R0F
	R7708		RS1/10S7500F
	R7753		RS1/8S000J
⚠	R7537-R7540		RS1/8S100J
	R7553		RS1/8S101J
⚠	R7543, R7544		RS1/8S7R5J
	VR7701 (1kΩ)		ACP1053
	Other Resistors		RS1/10S□□□J

OTHERS

Mark	No.	Description	Part No.
	CN7502	10P PLUG	KM250NA10L

PWR,PRTEC ASSY

SEMICONDUCTORS

Mark	No.	Description	Part No.
	Q7208, Q7215, Q7219		2SA1162
	Q7213		2SA1182
	Q7301, Q7302		2SC1815
	Q7207, Q7209, Q7212, Q7214, Q7218		2SC2712
	Q7220, Q7221		2SC2712
	Q7216		2SC2859
	Q7211, Q7217		2SC3138
	Q7210, Q7222		XDA124EK
	D7201, D7205		HSS104-02
	D7204, D7206		HZS6C3L
	D7203		HZS9A2L

CAPACITORS

Mark	No.	Description	Part No.
	C7402, C7406, C7408 (0.082µF/25V)		ACG1050
	C7401, C7405, C7407 (0.33µF/50V)		ACG1053
	C7212 (1µF/50V)		ACH1056
	C7409 (10µF/35V)		ACH1150
	C7207, C7208 (47µF/16V)		ACH1151
	C7140, C7141 (22µF/16V)		ACH1248
	C7704		CEAS4R7M50
	C7205		CEJA101M10
	C7301		CKSQYB332K50
	C7213		CKSQYF103Z50
	C7206, C7404		CKSQYF104Z50

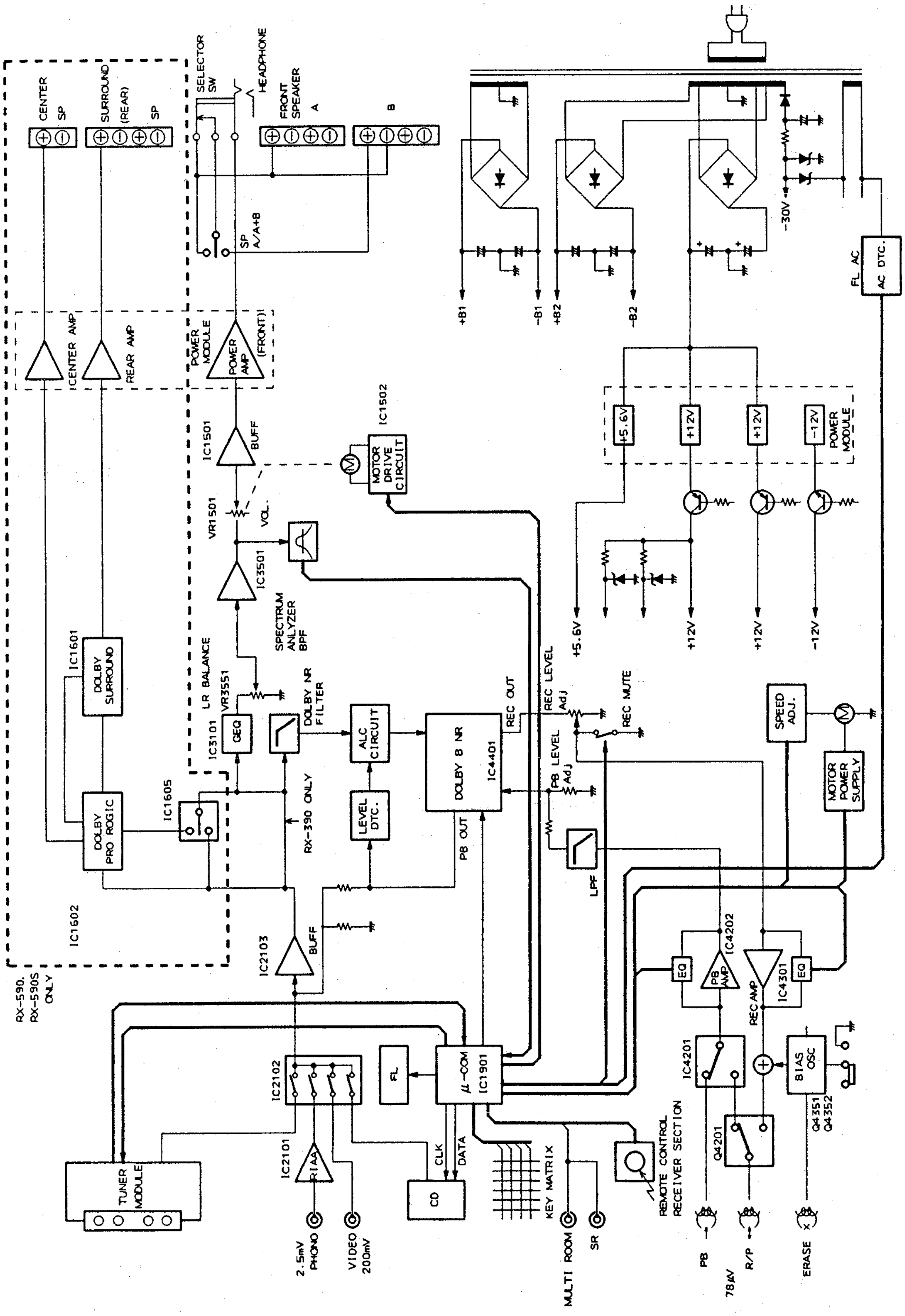
RESISTORS

Mark	No.	Description	Part No.
	R7403, R7404 (1Ω, 1/10W)		ACN1104
	R7755, R7756		RD1/2PM222J
	R7303		RS1/10S1002F
	R7304		RS1/10S8200F
	Other Resistors		RS1/10S□□□J

OTHERS

Mark	No.	Description	Part No.
	CN7101	CONNECTOR (12P)	KPE12

8. BLOCK DIAGRAM


CENTER SP
SURROUND (REAR) SP
SELECTOR SW
HEADPHONE
FRONT SPEAKER A
B
SP A/A+B
CENTER AMP
REAR AMP
POWER MODULE
POWER AMP
(FRONT)
IC1501
BUFF
IC1502
MOTOR DRIVE CIRCUIT
VR1501
VOL.
IC3501
SPECTRUM ANLYZER BPF
LR BALANCE
VR3551
IC3101
GEQ
DOLBY NR FILTER
ALC CIRCUIT
LEVEL DTC.
DOLBY B NR
IC4401
REC OUT
PB OUT
REC LEVEL Adj
REC MUTE
PB LEVEL Adj
LPF
IC1601
DOLBY SURROUND
DOLBY PRO ROGIC
IC1605
RX-390 ONLY
IC1602
RX-590, RX-590S ONLY
IC2103
BUFF
IC2102
IC2101
RIAA
2.5mV PHONO
VIDEO 200mV
TUNER MODULE
FL
μ-COM
IC1901
CLK
DATA
CD
KEY MATRIX
MULTI ROOM
SR
REMOTE CONTROL RECEIVER SECTION
+B1
-B1
+B2
-B2
-30V
FL AC
AC DTC.
+5.6V
+12V
+12V
-12V
POWER MODULE
+5.6V
+12V
+12V
-12V
SPEED ADJ.
MOTOR POWER SUPPLY
EQ
PB AMP
IC4202
REC AMP
IC4301
EQ
IC4201
Q4201
BIAS OSC
Q4351
Q4352
PB
R/P
78μV
ERASE

9. REMOTE CONTROL UNIT (CU-AV011) (RX-590S ONLY)

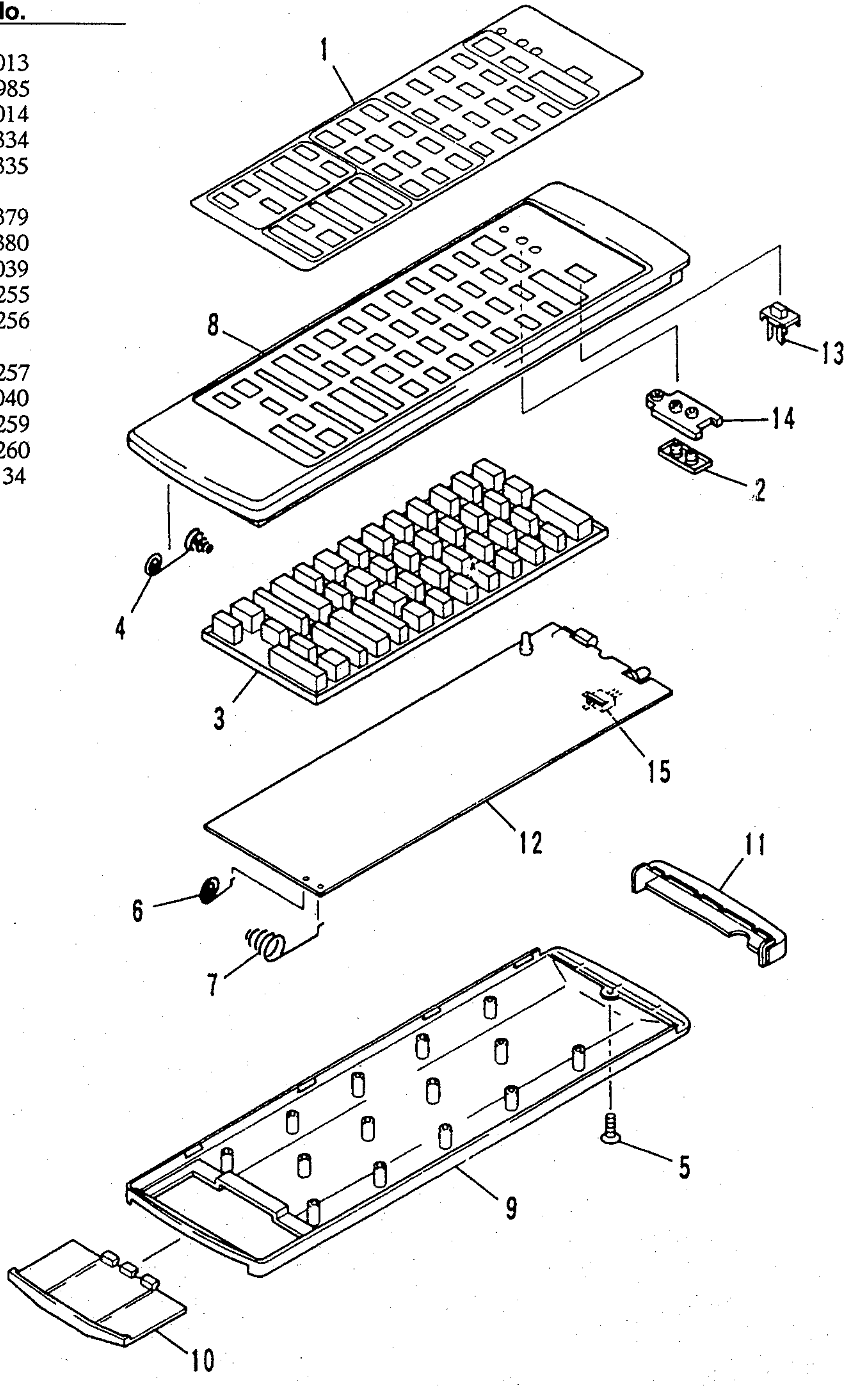
9.1 EXPLODED VIEW

NOTES:

- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*

Parts List

Mark	No.	Description	Part No.
	1	Plate	RZA1013
	2	Rubber sheet (A) (S102)	AZA1985
	3	Rubber sheet (B) (S103)	RZA1014
	4	Terminal	AZB1334
	5	Screw	AZB1335
	6	Terminal (A)	AZB1379
	7	Terminal (B)	AZB1380
	8	Case (A)	RZN1039
	9	Case (B)	AZN2255
	10	Battery cover	AZN2256
	11	Filter	AZN2257
NSP	12	P. C. Board	RZN1040
	13	Knob (VIDEO/AUDIO)	AZN2259
	14	Frame	AZN2260
	15	Slide switch (S101)	AZS1134



9.2 PCB PARTS LIST

NOTES:

- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Parts marked by "◉" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.*
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

Ex.1 When there are 2 effective digits(any digit apart from 0), such as 560 ohm and 47k ohm(tolerance is shown by J=5%, and K=10%).

560 Ω → 56 × 10^1 → 561 ······ RD1/4PU$\boxed{5}\boxed{6}\boxed{1}$J
47k Ω → 47 × 10^3 → 473 ······ RD1/4PU$\boxed{4}\boxed{7}\boxed{3}$J
0.5 Ω → 0R5 ······ RN2H$\boxed{0}\boxed{R}\boxed{5}$K
1 Ω → 1R0 ······ RS1P$\boxed{1}\boxed{R}\boxed{0}$K

Ex.2 When there are 3 effective digits(such as in high precision metal film resistors).

5.62k Ω → 562 × 10^1 → 5621 ······ RN1/4PC$\boxed{5}\boxed{6}\boxed{2}\boxed{1}$F

Mark	No.	Description	Part No.
SEMICONDUCTORS			
	IC1		RZC1019
	IC2		PTS9121N
	Q1		2SC3265
	D1		SE303A-C
	D2, D4, D5		RLS73
	D3		SPS-503C-3
	D6		SLC-22VR
CAPACITORS			
	C1		CEAS221M25
	C2		CEAS470M10
	C3, C8		CGCYF104Z25
	C6		CEAS101M10
	C7		CCCSL101J50
RESISTORS			
	All resistors		RD1/4PU□□□J
OTHERS			
	X1	RESONATOR	FCR4. 0MC3

9.3 SCHEMATIC DIAGRAM

NOTE FOR SCHEMATIC DIAGRAMS

(Type 2A)

1. When ordering service parts, be sure to refer to "PARTS LIST of EXPLODED VIEWS" or "PCB PARTS LIST".

2. Since these are basic circuits, some parts of them or the values of some components may be changed for improvement.

3. RESISTORS:
Unit: k:kΩ, M:MΩ, or Ω unless otherwise noted.
Rated power: 1/4W, 1/6W, 1/8W, 1/10W unless otherwise noted.
Tolerance:(F):±1%, (G):±2%, (K):±10%, (M):±20% or ±5% unless otherwise noted.

4. CAPACITORS:
Unit : p:pF or μF unless otherwise noted.
Ratings : capacitor (μF) / voltage (V) unless otherwise noted.
Rated voltage : 50V except for electrolytic capacitors.

5. COILS:
Unit : m:mH or μH unless otherwise noted.

6. VOLTAGE AND CURRENT:
▭ or ←V :
DC voltage (V) at no input signal unless otherwise noted.
⇦mA or ←mA :
DC current at no input signal unless otherwise noted.

7. OTHERS:
- ⊘ or ⊘ : Adjusting point.
- ◁ : Measurement point.
- The ⚠ mark found on some component parts indicates the importance of the safety factor of the parts. Therefore, when replacing, be sure to use parts of identical designation.

8. SCH – □ ON THE SCHEMATIC DIAGRAM:
- SCH– □ indicates the drawing number of the schematic diagram. (SCH stands for schematic diagram.)

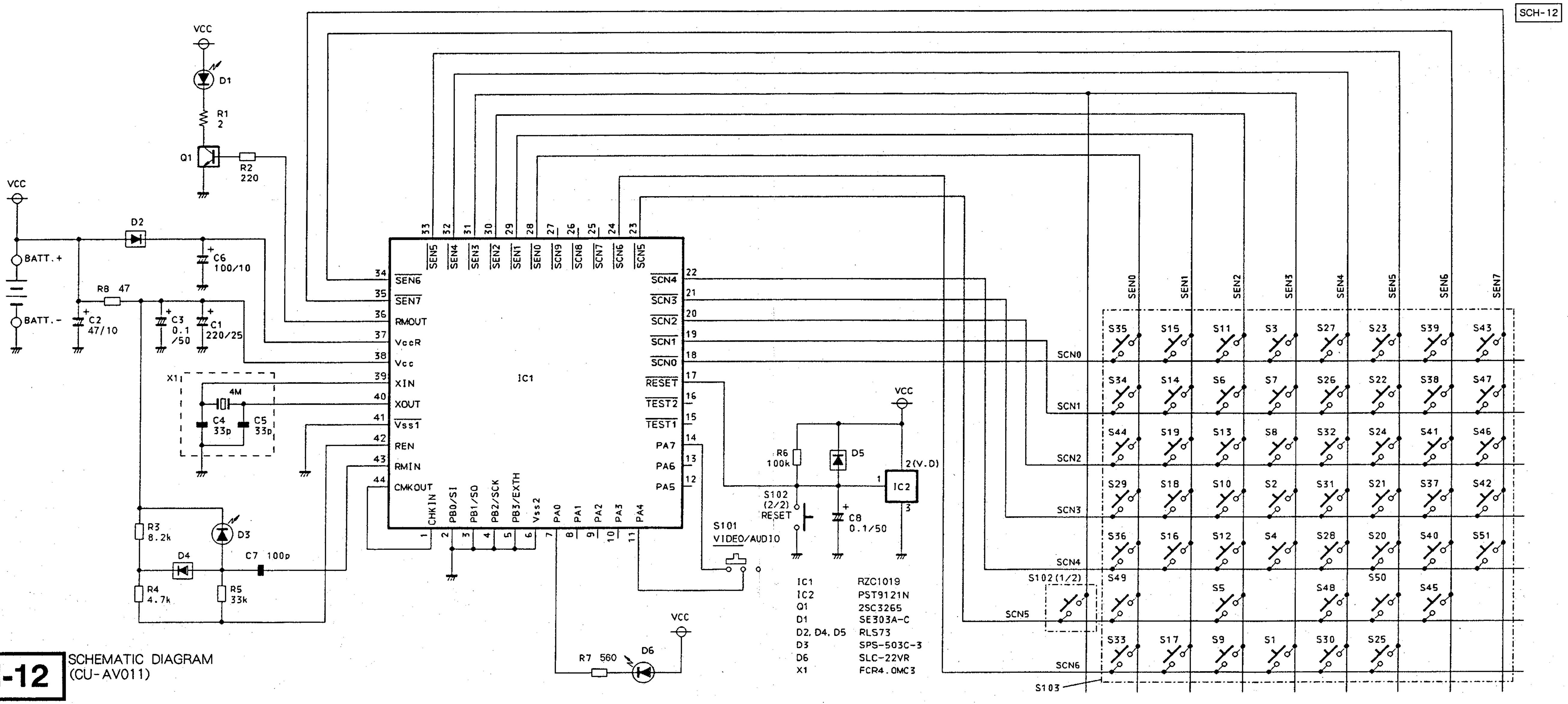
9. SWITCHES (Underline indicates switch position):

S101 : AUDIO/VIDEO
S102 : LEARN•RESET
S1 : DECK RECEIVER POWER
S2 : FUNCTION
S3 : MASTER VOLUME −
S4 : MASTER VOLUME +
S5 : REAR LEVEL −
S6 : REAR LEVEL +
S7 : S. BASS
S8 : PRO LOGIC
S9 : CENTER LEVEL −
S10 : CENTER LEVEL +
S11 : CENTER MODE
S12 : TEST TONE
S13 : 1 (1/13)
S14 : 2 (2/14)
S15 : 3 (3/15)
S16 : 4 (4/16)
S17 : 5 (5/17)
S18 : 6 (6/18)
S19 : 7 (7/19)
S20 : 8 (8/20)
S21 : 9 (9/21)
S22 : 0 (10/22)
S23 : DISC (11/23)
S24 : TRACK (12/24)

TUNER/TV

S25 : TV POWER
S26 : TV FUNC/BAND
S27 : TV VOLUME −
S28 : TV VOLUME +
S29 : DISC A −
S30 : DISC B +
S31 : TV CH/STATION −
S32 : TV CH/STATION +
S33 : BEST (◀◀)
S34 : PREVIOUS (▶▶)
S35 : CH −
S36 : CH +
S37 : CD/LD ⏸
S38 : CD/LD ▶
S39 : VCR ⏸
S40 : VCR ▶
S41 : CD/LD ⏮
S42 : CD/LD ⏭
S43 : VCR ◀◀
S44 : VCR ▶▶
S45 : CD/LD POWER
S46 : CD/LD ■
S47 : VCR ■
S48 : VCR POWER
S49 : SHIFT
S50 : TV/VCR

NOTE
-▭- : Indicates a chip resistor.
-╋- : Indicates a chip capacitor.
▭ : Indicates a chip transistor.
▭ : Indicates a chip diode.


SCH-12
VCC
D1
R1 2
Q1
R2 220
VCC
D2
C6 100/10
BATT.+
BATT.-
R8 47
C2 47/10
C3 0.1/50
C1 220/25
X1
4M
C4 33p
C5 33p
R3 8.2k
D3
D4
C7 100p
R4 4.7k
R5 33k
IC1
SEN5 SEN4 SEN3 SEN2 SEN1 SEN0 SCN9 SCN8 SCN7 SCN6 SCN5
SEN6
SEN7
RMOUT
VccR
Vcc
XIN
XOUT
Vss1
REN
RMIN
CMKOUT
CHKIN PB0/SI PB1/SO PB2/SCK PB3/EXTH Vss2 PA0 PA1 PA2 PA3 PA4
SCN4
SCN3
SCN2
SCN1
SCN0
RESET
TEST2
TEST1
PA7
PA6
PA5
VCC
R6 100k
D5
2(V.D)
IC2
S102 (2/2) RESET
C8 0.1/50
S101 VIDEO/AUDIO
VCC
R7 560
D6
SEN0 SEN1 SEN2 SEN3 SEN4 SEN5 SEN6 SEN7
SCN0 SCN1 SCN2 SCN3 SCN4 SCN5 SCN6
S102(1/2)
S103
S35 S15 S11 S3 S27 S23 S39 S43
S34 S14 S6 S7 S26 S22 S38 S47
S44 S19 S13 S8 S32 S24 S41 S46
S29 S18 S10 S2 S31 S21 S37 S42
S36 S16 S12 S4 S28 S20 S40 S51
S49 S5 S48 S50 S45
S33 S17 S9 S1 S30 S25

IC1	RZC1019
IC2	PST9121N
Q1	2SC3265
D1	SE303A-C
D2, D4, D5	RLS73
D3	SPS-503C-3
D6	SLC-22VR
X1	FCR4.0MC3

SCH-12 SCHEMATIC DIAGRAM (CU-AV011)

SCHEMATIC DIAGRAM (CU-AV011) SCH-12

9.4 PCB PATTERN

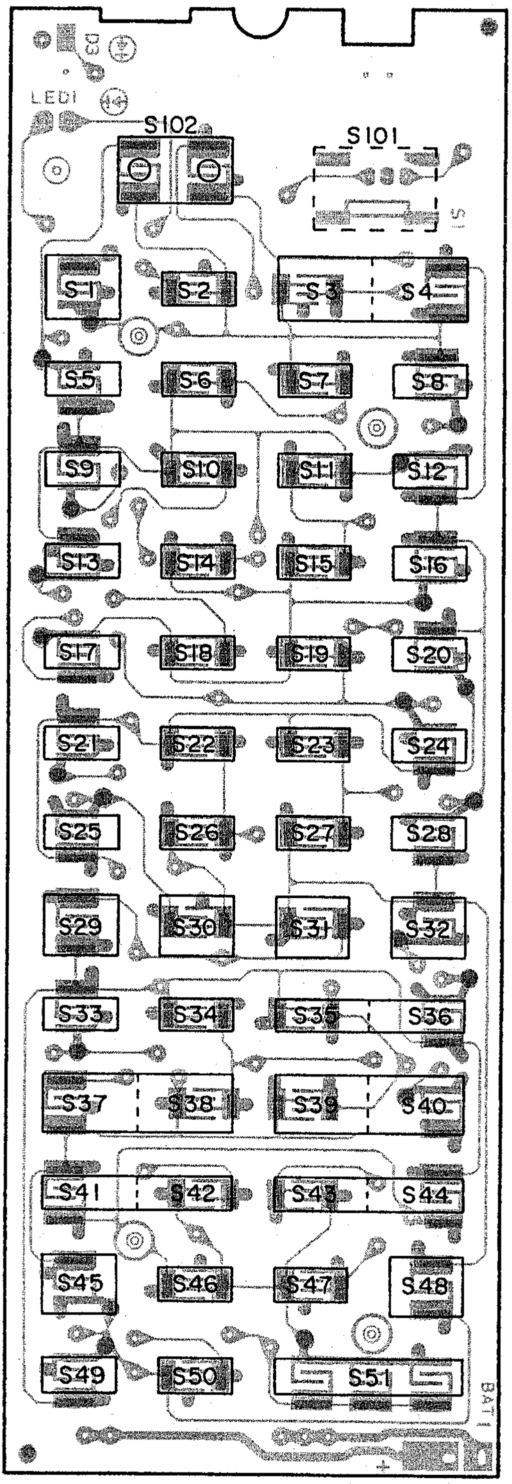
⬚ : Indicates a chip resistor.

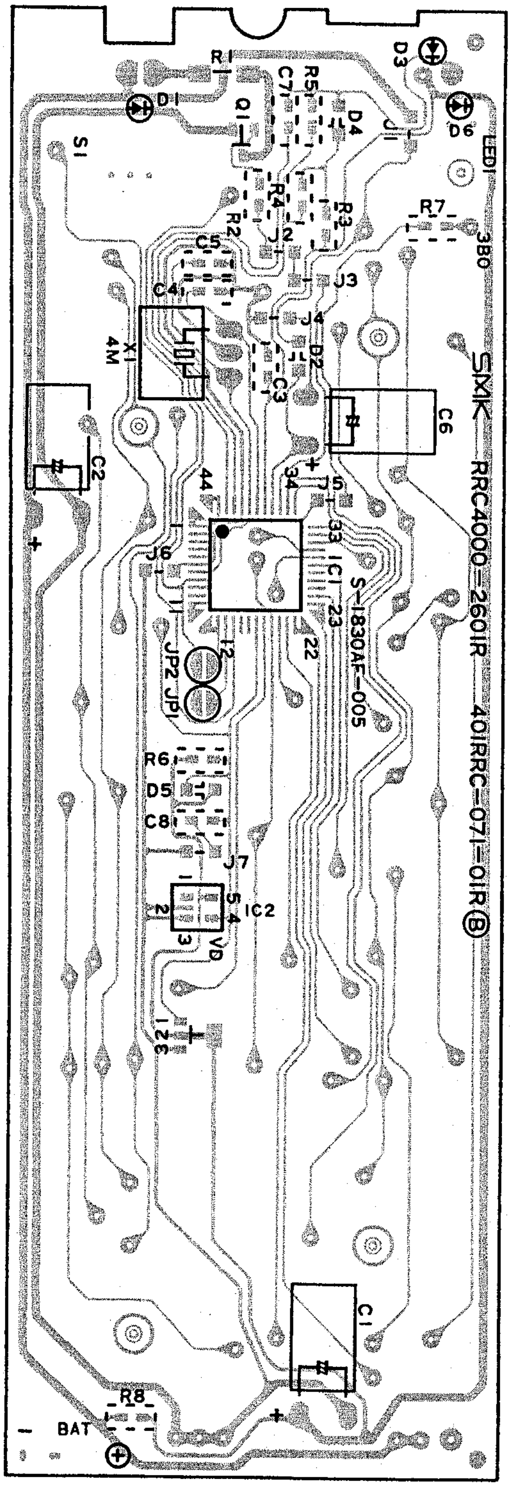
⬚ : Indicates a chip capacitor.

⊣ : Indicates a chip transistor.

⊕ : Indicates a chip diode.

PCB-11


D3
LED1
S102
S101
S1
S1 S2 S3 S4
S5 S6 S7 S8
S9 S10 S11 S12
S13 S14 S15 S16
S17 S18 S19 S20
S21 S22 S23 S24
S25 S26 S27 S28
S29 S30 S31 S32
S33 S34 S35 S36
S37 S38 S39 S40
S41 S42 S43 S44
S45 S46 S47 S48
S49 S50 S51
BAT
+


R1
D3
C7
R5
D1
Q1
D4
J1
D6
LED1
S1
R4
R3
R2
J2
R7
3B0
C5
C4
J3
J4
X1
4M
D2
C3
C6
C2
SXK — RRC4000 — 2601R — 401RRC — 071 — 01R Ⓑ
44
34
J5
33
IC1
S-1830AF-005
J6
23
22
11
12
JP2
JP1
R6
D5
C8
J7
IC2
5
4
VD
1
2
3
C1
R8
BAT
-
+